DOCUMENT RESUME

ED 189 387 CE 025 920

TITLE	Competency-Based Horticulture. Gardening/Groundskeeping.
INSTITUTION	College of DuPage, Glen Ellyn, Ill.
SPONS AGENCY	Illinois State Office of Education, Springfield. Div. of Adult Vocational and Technical Education.
PUB DATE	[76]
CONTRACT	R-33-10-Y-0442-317
NOTE	286p.; For related documents see CE 025 919-920.
EDRS PRICE	MF01/PC12 Plus Postage.
DESCRIPTORS	Administration; *Agricultural Education; Behavioral Objectives; Check Lists; *Competency Based Education; Curriculum Guides; Equipment Maintenance; Evaluation Criteria; Facilities; Fertilizers; *Groundskeepers; High Schools; Horticulture; Learning Activities; Maintenance; *Ornamental Horticulture; *Ornamental Horticulture Occupations; Personnel Management; Pesticides; Plant Propagation; Postsecondary Education; Secondary Education; Student Evaluation; Two Year Colleges; *Vocational Education
IDENTIFIERS	Vocational Technical Education Consortium States

ABSTRACT

One of two competency-based horticulture curriculum guides developed by an Illinois project, this Gardening/Groundskeeping guide provides the classroom teacher with specific tasks determined by state industry personnel to be necessary for entry-level job placement. It is intended for horticulture education at the senior high school and two-year college level. For each task, a specific performance objective and evaluation is given along with additional teaching strategies, evaluations, and instructional references. Both students and teachers may refer to Perfcrmance Guides and/or Instructor Checklists to determine and judge execution of the tasks. The ten units in this guide are Management-Personnel; Management-Job Actions; Soils; Lawns; Trees, Shrubs, Annuals, and Perennials; Pesticides; Fertilizers; Maintenance of Facilities; Equipment and Supplies; and Equipment Operation and Maintenance. A master reference list is appended. (YLB)

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COMPETENCY-BASED HORTICULTURE
GARDENING/GROUNDSKEEPING

U.S. DEPARTMENT OF HEALTH
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TABLE OF CONTENTS

UNIT I: MANAGEMENT - PERSONNEL

1. Recruit Employees - Instructor Checklist
2. Write Job Descriptions for Groundskeepers - Instructor Checklist
3. Interview and Select Employees - Performance Guide
4. Evaluate Employee Performance - Instructor Checklist
5. Promote an Employee - Instructor Checklist
6. Terminate an Employee - Instructor Checklist
7. Counsel Employees About Absenteeism - Performance Guide
8. Schedule Employee Leaves or Vacations - Performance Guide
9. Develop Rules and Regulations - Instructor Checklist
10. Evaluate Suggestions - Instructor Checklist
11. Evaluate Complaints - Instructor Checklist
12. Plan for Staff Meetings - Instructor Checklist
13. Conduct Staff Meetings - Performance Guide

UNIT II: MANAGEMENT - JOB ACTIONS

1. Determine Personnel Requirements for Groundskeeping
2. Develop Priority Schedules for Completing Groundskeeping Tasks - Performance Guide
3. Assign Tasks to Groundskeeping Crews - Performance Guide
4. Assess Performed Activities - Instructor Checklist
5. Establish Performance Standards - Performance Guide
6. Develop Work Methods and Procedures - Performance Guide
7. Improve Work Methods and Procedured - Performance Guide, Instructor Checklist
8. Direct Inspection Activities - Instructor Checklist
9. Establish Safety Regulations - Performance Guide
10. Plan Security Programs - Instructor Checklist

UNIT III: SOILS

1. Take Soil Samples - Performance Guide
2. Send Samples for Analysis - Performance Guide
3. Read and Interpret Soil Test Analysis - Performance Guide
4. Develop Procedures for Improving Soils - Performance Guide, Instructor Checklist
5. Prepare Soil with a Tiller - Performance Guide
6. Control Soil Erosion Caused by Water and Wind - Instructor Checklist
7. Haul and Spread Topsoil - Performance Guide

UNIT IV: LAWNS

1. Prepare a Seedbed for Lawn Areas - Performance Guide
2. Aerate and Revitalize Worn Spots in Lawns - Performance Guide
3. Fill in Holes or Depressions in Lawns - Performance Guide
4. Use Proper Techniques to Mow Lawns - Performance Guide

UNIT V: TREES, SHRUBS, ANNUALS, AND PERENNIALS

1. Arrange for Transportation of Materials Purchased - Performance Guide
2. Construct Proper Stroage Areas to Protect Plants from Weather - Performance Guide
3. Transplant Trees-A - Performance Guide
4. Transplant Trees-B - Performance Guide
5. Wrap Trees or Shrubs to Protect from Weather - Performance Guide
6. Brace Newly Planted Trees - Performance Guide
7. Prune Trees and Shrubs - Performance Guide
8. Prune Hedges - Performance Guide
9. Treat Tree Cavities and Wounds - Performance Guide
10. Brace Overloaded Limbs or Branches - Performance Guide
11. Remove Dead or Unwanted Trees and Stumps - Performance Guide
12. Plant Annual flowers - Performance Guide
13. Remove Grass from Flower Bed Edges - Performance Guide

UNIT V: TREES, SHRUBS, ANNUALS, AND PERENNIALS (CON'T.)

14. Remove Weeds and Graas from Flower Beds - Performance Guide
15. Plant Bulbs - Performance Guide
16. Apply Compost and Mulches - Performance Guide
17. Water Plants - Performance Guide, Instructor Checklist

UNIT VI: PESTICIDES

1. Compile Information Necessary for Purchasing Chemicals for Shrubs, Trees, and Lawns - Performance Guide
2. Store Agricultural Chemicals - Performance Guide
3. Dispose of Pesticide Containers - Performance Guide
4. Check Plants and Lawns for Insects - Performance Guide
5. Applying a Pesticide - Performance Guide
6. Apply Chemical Treatment to Diseased or Insect Infested Plants - Performance Guide
7. Apply Weed Killng Compounds to Lawns - Performance Guide

UNIT VII: FERTILIZERS

1. Apply Fertilizers - Performance Guide
2. Apply Fertilizers to Trees and Shrubs - Performance Guide
3. Develop Fertilization Schedules - Performance Guide

UNIT VIII: MAINTENANCE OF FACILITIES

1. Clean Grounds of Leaves and Litter - Performance Guide
2. Dispose of Prunings - Performance Guide
3. Repair Irrigation Lines and Spray Components - Performance Guide
4. Maintain Pools and Fountains - Performance Guide
5. Repair Driveways and Streets - Performance Guide
6. Sweep Streets or Parking Lots - Performance Guide
7. Apply Salt to Icey Sidewalks or Streets - Performance Guide

UNIT IX: EQUIPMENT AND SUPPLIES

1. Keep an Inventory of Plants, Equipment, and Supplies - Performance Guide
2. Evaluate Layout of Shop and Facilities - Instructor Checklist
3. Evaluate Capabilities of Equipment - Instructor Checklist
4. Evaluate the Maintenance of Equipment - Performance Guide

UNIT X: EQUIPMENT OPERATION AND MAINTENANCE

1. Use a Tractor - Performance Guide, Instructor Checklist
2. Dig Drainage Ditch with a Ditchwitch - Performance Guide
3. Sow Seed with a Rotary Spreader - Performance Guide
4. Edge a Sidewalk with a Power Edger - Performance Guide
5. Use a Rotary Tiller - Performance Guide
6. Use a Rotary Mower - Performance Guide
7. Compact a Seedbed with a Lawn Roller -Performance Guide
8. Clean and Sharpen Hand Tools - Performance Guide
9. Clean Centrifugal Fertilizer Applicators - Performance Guide
10. Add Oil to Small Engines - Performance Guide
11. Service Belt Drives on Groundskeeping Equipment - Performance Guide

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? RECRUIT EMPLOYEES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a need for additional workers, list eight methods/ sources that may be used to locate needed personnel. PERFORMANCE GUIDE	1) Group discussion of methods/ sources available to locate personnel. 2) Independent/group research of available local personnel sources. 3) Practice writing a concise newspaper employment ad. 4) View filmstrips/slides. 5) Read subject-matter units. 6) Complete Performance Objective.	Selections from 'miscellaneous' resource list. <u>Illinois</u> No. 6004 - 'Agricultural Business Procedures' No. 6001A - 'Applying for a Job' <u>Kentucky</u> GG No. 00 - 'Introduction to Gardening-Grounds-keeping' Local newspaper - classified advertisement department Local industry Instructor Checklist	1) Participation 2) Notes and report on findings. 3) Per outline provided by local newspaper and instructor approval. 4) Notes 5) Notes 6) Per Instructor Checklist.

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

RECRUIT EMPLOYEES

INSTRUCTOR CHECKLIST

INSTRUCTIONS: Check beside the recruitment methods or sources cited by the student. Satisfactory performance requires a check beside at least 8 of the 10 methods.

1. Field applications ☐
2. Verbal communication to existing workers ☐
3. Employment service ☐
4. Radio ☐
5. Television ☐
6. Newspapers ☐
7. Verbal communication in the community ☐
8. Similar gardening agencies ☐
9. Employment agencies ☐
10. Posted signs ☐

UNIT: MANAGEMENT PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? WRITE JOB DESCRIPTIONS FOR GROUNDSKEEPERS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of grounds and equipment, write a job description for an entry-level groundskeeper employed by a school, hospital or industry. The job description must include a description of each duty listed in the Instructor Checklist.	1) Group discussion of groundskeeping job titles and corresponding duties. 2) Practice writing groundskeeping job descriptions 3) Complete Performance Objective	Selections from 'miscellaneous' list. Department of Technical Education Local industry Instructor Checklist	1) Participation 2) Instructor approval 3) Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT-PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

WRITE JOB DESCRIPTIONS FOR GROUNDSKEEPERS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance. A clear and concise description of responsibilities for an entry-level groundskeeper must be provided for each area listed below.

1. Maintenance of plants ☐
2. Replacement of plants ☐
3. Soil preparation and improvement ☐
4. Maintenance of facilities ☐
5. Operation of equipment ☐
6. Maintenance of equipment ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? INTERVIEW AND SELECT EMPLOYEES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an entry-level job opening and a job description, determine which one of three applicants is best qualified for the position. Each applicant will be supplied with a description of the job and asked questions 'in private' which are directly related to the job. Select one applicant upon the basis of interest in the job, record of directly-related work experience, and record of directly-related training. You may use applications, interviews, and the job descriptions to make your decision. PERFORMANCE GUIDE Attached	1) Group discussion with school Director of Personnel on interviewing and selecting employees, privacy laws, etc. 2) Role play interview situation 3) Read subject-matter units 4) Complete Performance Objective	Selections from 'miscellaneous' resource list. <u>Illinois</u> No. 6001a 'Applying for a Job' No. 6003 'Human Relations in Agricultural Businesses' School Director of Personnel Local industry Performance Guide	1) Participation 2) Participation and instructor approval. 3) Notes 4) Per Performance Guide and Instructor approval.

GARDENING - GROUNDSKEEPING

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

INTERVIEW AND SELECT EMPLOYEES

PERFORMANCE GUIDE

1. Review work to be performed.

2. Review prospective employees' applications.

3. Discuss prospective employees' work experience with former employees.

4. Call each prospective employee for private conference.

5. Interview each prospective employee:

   a. Discuss reason for applicant wanting this job.
   b. Discuss past work experience of applicant.
   c. Describe job opening and its importance.
   d. Relate job opening to past work experience of applicant.
   e. Describe working conditions of jobs, if appropriate.
   f. Describe fringe benefits, if appropriate.
   g. Describe advancement opportunities, if appropriate.

6. Assess qualifications of each applicant.

7. Select most qualified applicant upon the basis of:

   a. Interest in the job.
   b. Record of directly-related experience.
   c. Record of directly-related training.
   d. Past references.

8. The selection must match that of the instructor for satisfactory performance.

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE EMPLOYEE PERFORMANCE

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a completed gardening task, list five questions which should be used in evaluating an employee's performance.	1) Group discussion with Director of Personnel on frequency of employee evaluations, i.e., bi-weekly, monthly, yearly. 2) Independent/group research of local industry practices. 3) Read subject-matter unit. 4) Complete Performance Objective.	Selections from 'miscellaneous' resource list Illinois No. 6016 "Motivating Workers in an Agricultural Business" School Director of Personnel Local industry Instructor Checklist	1) Participation 2) Notes and report on findings 3) Notes 4) Questions must correspond with Instructor Checklist.

PERFORMANCE GUIDE

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

EVALUATE EMPLOYEE PERFORMANCE

INSTRUCTOR CHECKLIST

INSTRUCTIONS: Students are to list a minimum of 5 questions to be used in evaluating employee performance. Check in the space provided, those questions that correspond to student responses. For satisfactory performance, all spaces should be checked.

1. Was the task neatly done? ☐
2. Were applicable safety rules observed? ☐
3. Was the task completed in a reasonable length of time? ☐
4. Were the proper tools selected and used correctly? ☐
5. Were standard horticultural or groundskeeping practices followed? ☐
6. Was the employee cordial with the public? Able to answer questions or suggest proper sources for answers? ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PROMOTE AN EMPLOYEE

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of the position, develop a minimum of five criteria that can serve as a basis for judgement in promoting personnel to new or vacant positions. PERFORMANCE GUIDE	1) Group discussion with Director of Personnel on employee promotions. 2) Read subject-matter units. 3) Independent/group research of local industry procedures. 4) Complete Performance Objective	Selections from 'miscellaneous' resource list. Illinois No. 6003 'Human Relations in Agricultural Businesses' No. 6016 'Motivating Workers in an Agricultural Business. School Director of Personnel Local industry Instructor Checklist	1) Participation 2) Notes 3) Notes and report on findings. 4) Per Instructor Checklist

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

PROMOTE AN EMPLOYEE

INSTRUCTOR CHECKLIST

INSTRUCTIONS: Screening criteria must be written for a minimum of 5 of the categories listed below for satisfactory performance. Place a check by the categories covered.

1. Seniority ☐
2. Experience ☐
3. Past work performance ☐
4. Education and training ☐
5. Desire for future growth ☐
6. Ability to adapt ☐
7. Ability to get along with others ☐
8. General attitude ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TERMINATE AN EMPLOYEE

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
List a minimum of eight possible reasons for terminating an employee.	1) Group discussion with Director of Personnel on reasons for terminating an employee, dismissal procedures, employment laws. 2) Read subject-matter unit. 3) Independent/group research of local industry practices (company, city, county in situation dismissal procedures) 4) Complete Performance Objective	Selections from 'miscellaneous' resource list. <u>Illinois</u> No. 6003 'Human Relations in an Agricultural Business" Director of Personnel Local government agencies, companies, and institutions. Instructor Checklist.	1) Participation 2) Notes 3) Notes and report on findings. 4) Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

TERMINATE AN EMPLOYEE

INSTRUCTOR CHECKLIST

INSTRUCTIONS: For satisfactory performance, student responses should correspond with any 8 of the elements listed below. Check those which are cited by the student.

1. Intoxication on the job ____
2. Excessive tardiness ____
3. Excessive or unreasonable absences ____
4. Poor work performance ____
5. Extreme carelessness ____
6. Inability or refusal to follow orders ____
7. Theft of company or personal property ____
8. Deliberate abuse or destruction of equipment ____
9. Inciting arguments or violence between fellow workers ____
10. Inability to get along with others ____
11. Inappropriate moral conduct on the job ____
12. Extremely poor attitude toward the job ____

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? COUNSEL EMPLOYEES ABOUT ABSENTEEISM

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a groundskeeping employee who has been absent from work without reason, counsel and ask the employee privately not to be absent again without a valid excuse. The counseling should be done in a manner that will not offend the employee. PERFORMANCE GUIDE Attached	1) Group discussion with Director of Personnel on employee absenteeism; common reasons, handling of situation, etc. 2) Read subject-matter units. 3) Role play counseling situation. 4) Independent/group research of local industry practices. 5) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Illinois No. 6003 'Human Relations in an Agricultural Business' No. 6016 'Motivating Workers in an Agricultural Business' School Director of Personnel Local industry Performance Guide	1) Participation 2) Notes 3) Participation and instructor approval 4) Notes and report on findings. 5) Per Performance Guide and Instructor approval.

GARDENING - GROUNDSKEEPING

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

COUNSEL EMPLOYEES ABOUT ABSENTEEISM

PERFORMANCE GUIDE

1. Analyze employee attendance and performance records.
2. Discuss employee interests and attitudes confidentially with other supervisors.
3. Arrange for private meeting room.
4. Call employee for conference.
5. Set stage for informal discussion.
   a. Emphasize importance of teamwork in job.
   b. Review attendance policies.
6. Inquire about reason for absenteeism.
7. Explain what will be accepted as a valid excuse.
8. Explain procedure for getting an excuse.
9. Ask worker to use procedure for all absences.
10. Follow procedures established by county, city, institution, etc., i.e., chronic absenteeism:
    a. verbal warning
    b. written warning
    c. written reprimand
    d. days off without pay
    e. fired
11. Counseling procedure must be approved by the instructor for satisfactory performance.

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SCHEDULE EMPLOYEE LEAVES OR VACATIONS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a roster of nine employees, leave eligibility of each, employee leave requests, and a list of on-going and up-coming tasks, develop a vacation schedule so not more than two of the nine employees are scheduled to be absent during any regular work day. PERFORMANCE GUIDE Attached	1) Group discussion with Director of Personnel on vacation schedules, considerations, legal holidays, etc. 2) Independent/group research of local industry practices. 3) Complete Performance Objective.	Selections from 'miscellaneous' resource list. School Director of Personnel Local industry Performance Guide	1) Participation 2) Notes and report on findings. 3) Per Performance Guide and instructor approval.

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

SCHEDULE EMPLOYEE LEAVES OR VACATIONS

PERFORMANCE GUIDE

1. If work is seasonal, no vacations should be scheduled during peak seasons.

2. Review work in progress and tasks to be performed.

3. Counsel with each employee requesting vacation/holiday leave.

   a. Review leave eligibility and need for vacation/holiday time of each worker.
   b. Discuss tasks to be performed during vacation/holiday period.
   c. Determine who will be responsible for performing tasks.
   d. Identify alternate dates for leave, if necessary.

4. Develop vacation/holiday schedule for workers requesting leave.

   a. Identify workers by name.
   b. Identify departure and return dates.
   c. Identify place where workers can be reached during vacation/holiday.
   d. Identify by name worker who will be responsible for performing tasks.

5. Present schedule to instructor for review.

6. Review schedule if necessary.

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP RULES AND REGULATIONS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
After completing a conference on policies and regulations, develop 20 rules normally included in personnel policies.	1) Group discussion with Director of Personnel on development and necessity of rules and regulations. 2) Independent/group research of local industry practices. 3) Read subject-matter unit. 4) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Illinois No. 6003 'Human Relations in an Agricultural Business' No. 6016 'Motivating Workers in an Agricultural Business' School Director of Personnel Local industry Instructor Checklist	1) Participation 2) Notes and report on findings. 3) Notes 4) Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

DEVELOP RULES AND REGULATIONS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: Check those categories covered by student statements. For satisfactory performance, statements or rules should relate to at least 15 categories listed below.

Parking	____	Holidays	____
Personal conduct	____	Jury duty	____
Personal property	____	Absenteeism	____
Telephone calls	____	Restroom facilities	____
Bulletin Board	____	Breaks & lunch periods	____
Solicitation	____	Insurance	____
Complaints	____	Accidents	____
Wages & compensation	____	First aid	____
Overtime	____	Tools & equipment	____
Raises	____	Safety	____
Leave of absence	____	Health	____
Vacation	____	Dress	____

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE SUGGESTIONS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a suggestion that supposedly will decrease worktime in a given flower and shrub area, develop six questions to be used in evaluating the suggestion.	1) Group discussion with school administrator on evaluating suggestions. 2) Independent/group research of local industry practices. 3) Read subject-matter unit. 4) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Illinois No. 6006 'Simplifying Work in an Agricultural Business' School administration responsible for evaluating suggestion. Local industry. Instructor Checklist	1) Participation 2) Notes and report on findings. 3) Notes 4) Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

EVALUATE SUGGESTIONS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance.

1. Does the suggestion follow a logical sequence? ☐
2. Has it been implemented elsewhere? ☐
3. Is it feasible within existing conditions? ☐
4. Do others agree with the suggestion? ☐
5. Would it detract from the present function of the area? ☐
6. Can it be tried with a mimimum of expense? ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE COMPLAINTS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a job-related complaint from an employee, develop five questions to be used in evaluating the complaint. PERFORMANCE GUIDE	1) Group discussion with school administrator on evaluating complaints. 2) Read subject-matter units. 3) Independent/group research of local industry practices. 4) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Illinois No. 6003 'Human Relations in an Agricultural Business' No. 6006 'Simplifying Work in an Agricultural Business' School administrator responsible for evaluating complaints. Local industry Instructor Checklist	1) Participation 2) Notes 3) Notes and report on findings. 4) Per Instructor Checklist

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

EVALUATE COMPLAINTS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance.

1. Is complaint based upon fact? ☐
2. Has it been brought up previously by others? ☐
3. Is it possible to change the situation causing complaint? ☐
4. Would a change detract from the present function of the area? ☐
5. Could a change be implemented with a minimum of expense? ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PLAN FOR STAFF MEETINGS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
After attending sessions providing information on staff meetings, develop a list of sequential steps that should be followed in conducting a meeting of this type.	1) Group discussion with a school administrator on planning staff meetings 2) Independent/group research of local industry practices. 3) Complete Performance Objective.	Selections from 'miscellaneous' resource list. School administrator responsible for planning staff meetings. Instructor Checklist	1) Participation 2) Notes and report on findings. 3) Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

PLAN FOR STAFF MEETINGS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance.

1. Determine need for meeting. ☐
2. Select meeting time ☐
3. Arrange for meeting space ☐
4. Select topics ☐
5. Secure needed equipment ☐
6. Collect information from staff ☐
7. Organize information ☐
8. Present information ☐
9. Permit time for feedback ☐
10. Evaluate meeting ☐

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CONDUCT STAFF MEETINGS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a landscape maintenance task, conduct a staff meeting to describe work to be completed. The meeting should be no more than ten minutes in length.	1) Group discussion with school administrator on conducting staff meetings. 2) Independent/group research of local industry practices 3) Role play staff meeting. 4) Complete Performance Objectives.	Selections from 'miscellaneous' resources list. School administrator responsible for conducting staff meetings. Local industry Performance Guide	1) Participation 2) Notes and report on findings. 3) Participation/group evaluation 4) Per Performance Guide and Instructor approval.

PERFORMANCE GUIDE

Attached

UNIT: MANAGEMENT - PERSONNEL

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

CONDUCT STAFF MEETINGS

PERFORMANCE GUIDE

1. Write information required for performing task.

   a. Procedures required.
   b. Finished work standards for judging successful performance.
   c. Safety precautions.

2. Assign task responsibilities to each worker.

3. Present information needed by each worker to complete task.

4. Check worker understanding by asking each worker to repeat orally the responsibilities for completing the task.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DETERMINE PERSONNEL REQUIREMENTS FOR GROUNDSKEEPING

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given that it takes one man five hours to mow an area 25' x 75', determine how long it will take 3 men to mow an area twice this size. Round off to 2 decimal places.	1. Group discussion on personnel requirements, i.e., estimating ability. Knowledge of employees' abilities, quality of work desired, equipment to be used, etc.	Selections from 'miscellaneous resource list. Illinois No. 6015 'Using Arithmetic in Agriculture' No. 6016 'Motivating Workers in an Agricultural Business Mathematics Textbooks Local Industry	1. Participation
	2. Read subject-matter units.		2. Notes
	3. Complete Performance Objective		3. Mathematical equation and answer approved by instructor.

PERFORMANCE GUIDE

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP PRIORITY SCHEDULES FOR COMPLETING GROUNDSKEEPING TASKS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of tasks to be performed during one week and a prepared schedule form, develop a priority schedule for completing these groundskeeping tasks.	1. Group discussion on scheduling tasks, alternative tasks, for poor weather conditions. 2. Independent/group research on local industry practices. 3. Complete Performance Objective.	Selections from 'miscellaneous' resource list. Local industry Performance Guide	1. Participate. 2. Notes and report on findings. 3. Per Performance Guide and instructor approv

PERFORMANCE GUIDE

Attached

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

DEVELOP PRIORITY SCHEDULES FOR COMPLETING GROUNDSKEEPING TASKS.

PERFORMANCE GUIDE

1. Review tasks to be performed.
2. Review schedule form.
3. Place tasks in order of priority, indicating alternatives in case of negative weather conditions.
4. Indicate person responsible for performing each task.
5. Indicate date of performance of each task.
6. Present schedule to instructor for review.
7. Revise schedule, if necessary.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ASSIGN TASKS TO GROUNDSKEEPING CREWS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given three groundskeeping workers, a Bluegrass lawn area, and three rotary mowers, assign a lawn-mowing task to each worker. PERFORMANCE GUIDE Attached	1. View filmstrips/slide sets 2. Read subject-matter units. 3. Role-play situation of assigning tasks. 4. Complete Performance Objective	Selections from 'miscellaneous' resource list. Illinois No. 498 'Using Power Lawn Mowers Safely' No. 651 'Steps to a Better Lawn' Georgia No. 28 'Lawn Grass Maintenance' Kentucky GG No. 54 'Mowing Grass' New York 01.0506-01 'Growing and Caring for Turfgrass' Ohio 'Lawn Care and Management' "Turf Management' Local Industry Performance Guide	1. Notes 2. Notes 3. Participation/group evaluation. 4. Per Performance Guide and Instructor approval.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

ASSIGN TASKS TO GROUNDSKEEPING CREWS

PERFORMANCE GUIDE

1. Assign lawn-mowing equipment to each worker.
2. Designate lawn areas to be mowed by each worker.
3. Instruct workers in methods and procedures to be followed in mowing lawn areas at uniform height, and without damaging surrounding trees and ornamental plants.
4. Each worker must be able to repeat orally the assigned task and procedures to be used in completing the task.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ASSESS PERFORMED ACTIVITIES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given the time sheets for four persons and information about the job activities of each during a specified period (instructor-prepared situation), list a minimum of five factors to be considered when analyzing each person's work load during the designated period.	1. Group discussion of work assessment procedures and considerations. 2. Independent/group research of local industry practices. 3. Complete Performance Objective	Selections from 'miscellaneous' resource list Local industry Instructor Checklist	1. Participation 2. Notes and report on findings. 3. Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

ASSESS PERFORMED ACTIVITIES

INSTRUCTOR CHECKLIST

INSTRUCTIONS: Factors listed by students should contain at least five of the elements below for satisfactory performance. Check in the space provided those statements relating to student responses.

1. Title of each duty ☐
2. Approximate time spent on each duty ☐
3. Number of hours worked ☐
4. Number of duties performed ☐
5. Rating of difficulty of each duty performed ☐
6. Number of assistants on each duty ☐
7. Evaluation of each completed duty ☐

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ESTABLISH PERFORMANCE STANDARDS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a task to treat a fungus infection on a shrub and chemical manufacturer's specifications, list in writing three performance standards for applying a chemical to the fungus infection. PERFORMANCE GUIDE Attached	1. Group discussion of procedures/considerations used when developing performance standards. 2. Independent/group research of local industry practices. 3. View filmstrips/slide sets. 4. Read subject-matter units/ bulletins. 5. Complete Performance Objective	Selections from 'miscellaneous resource list. Illinois No. 1108-1.1 ' Understanding and Safe Use of Pesticides. No. 1108-1.2 'Selecting & Handling Pesticides.' 1108-1.3 'Calibrating & Applying Pesticides Safely' 4045a 'Handling & Using Pesticides Safely' 'Safe Use of Pesticides.' California 'Controlling Pests of Ornamental Plants" Georgia 'Insects & Diseases of Ornamentals - How to Control Them' 'Applying Pesticides' Kentucky GG No. 71 - 'Applying Chemicals to Diseased Plants' Michigan Controlling Pests of Trees and Shrubs'	1. Participation 2. Notes and report on findings 3. Notes 4. Notes 5. Per Performance Guide, Manufacturer's specifications, and instructor approval.

References (con't)

Oklahoma
'Principles of Pesticide Use, Handling, Application'

Local industry
Manufacturer's Specs.
Performance Guide.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

ESTABLISH PERFORMANCE STANDARDS

PERFORMANCE GUIDE

1. Identification of:
   a. Shrub
   b. Type of fungus infection
2. Recommendation of chemical treatment.
3. Method of application.
4. Results of chemical application
5. Safety considerations - State/EPA licensing, standards.
6. Instructor review.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP WORK METHODS AND PROCEDURES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of a groundskeeping task and the usual way that it is performed, develop an alternate plan for performing the task to reduce costs without loss of safety procedures or quality of work. PERFORMANCE GUIDE Attached	1. Read subject-matter units 2. Complete Performance Objective	Selections from 'miscellaneous resource list. Illinois No. 6004 'Agricultural Business Procedures' No. 6006 'Simplifying Work in an Agricultural Business' Local industry Performance Guide	1. Notes 2. Per Performance Guide and instructor approval.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

DEVELOP WORK METHODS AND PROCEDURES

PERFORMANCE GUIDE

1. State problem associated with old methods.
2. State causes of problems.
3. Develop new plan or procedure for improving task performance.
4. Test new plan or procedure and compare safety, costs, and quality of work with old method.
5. Revise new plan, as necessary.
6. Implement new plan.
7. Consider suggestions by crew leaders/foremen.
8. Submit for instructor approval.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? IMPROVE WORK METHODS AND PROCEDURES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
After observing a homeowner mow his lawn, develop a list of recommendations for improving his work methods.	1. View filmstrips/slide sets 2. Read subject-matter units 3. Role-play situation of discussing work methods with homeowner. 4. Independent/group research on local industry practices 5. Complete Performance Objective	Selections from 'miscellaneous' resource list. Illinois No. 651 'Steps to a Better Lawn' Kentucky GG No. 54 - 'Mowing Grass' Local industry Performance Guide Instructor Checklist	1. Notes 2. Notes 3. Participation/group evaluation. 4. Notes and report on findings. 5. Per Performance Guide and Instructor Checklist.

PERFORMANCE GUIDE

Attached

GARDENING - GROUNDSKEEPING

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

IMPROVE WORK METHODS AND PROCEDURES

PERFORMANCE GUIDE

1. Discuss problems of mowing methods with homeowner tactfully.
2. State proper mowing methods.
3. Explain advantages of proper mowing methods.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

IMPROVE WORK METHODS AND PROCEDURES

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance.

1. Improve lawn appearance and condition. ☐
2. Improve safety conditions. ☐
3. Reduce work time. ☐
4. Consume less fuel or energy. ☐
5. Consume less effort. ☐
6. Improve equipment care. ☐
7. Reduce air and noise pollution. ☐

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DIRECT INSPECTION ACTIVITIES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a gardening task of planting annual flowers, develop a list of inspection points to evaluate work performed.	1. Group discussion of evaluation considerations. 2. Read Subject-matter units. 3. View filmstrips/slide sets 4. Complete Performance Objective	Selections from 'miscellaneous' resource list. Kentucky GG No. 36 'Constructing Portable Shading Devices.' GG No. 50 'Planting and Mulching Flowers and Bulbs' GG No. 51 'Watering Plants' Ohio 'Annuals' Local industry Instructor Checklist	1. Participation 2. Notes 3. Notes 4. Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

DIRECT INSPECTION ACTIVITIES

INSTRUCTOR CHECKLIST

INSTRUCTIONS: For a satisfactory score, at least three of the student statements must match the inspection statements listed below. Place a check mark in the space provided if the student included the statement.

1. Were soil samples taken and tested before planting? ☐
2. Does soil have proper moisture and growth stimulants? ☐
3. What plants will be used and planting schedule? ☐
4. Is planting hole large enough to accommodate plant roots? ☐
5. Were plants spaced properly? ☐

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ESTABLISH SAFETY REGULATIONS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given the manufacturer's manual, Superintendent's criteria for mowing, and a description of a task to be performed, develop a list of five safety regulations for using a nine-gang self-propelled, reel-type mower under the conditions described. PERFORMANCE GUIDE Attached	1. View filmstrip/slide sets 2. Read subject-matter units. 3. Read manufacturer's manual 4. Complete Performance Objective	Selections from 'miscellaneous' resource list Illinois No. 498 'Using Power Lawn Mowers Safely' New York 01.0599-06 'Operation and Maintenance of Horticultural Equipment' Local industry Manufacturer's manual Performance Guide	1. Notes 2. Notes 3. Notes 4. Per Performance Guide and Instructor approval

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

ESTABLISH SAFETY REGULATIONS

PERFORMANCE GUIDE

1. Stress personal safety.
2. Consider mowing plan.
3. Consider equipment safety.
4. Read manufacturer's manual.
5. List five safety regulations for equipment under described conditions.
6. Submit to instructor for check against manufacturer's manual.

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PLAN SECURITY PROGRAMS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
From information about a given grounds area, building or compound, list seven possible security procedures that could provide protection for the grounds area.	1. Group discussion on security programs 2. Independent/group research of school and local industry practices 3. Complete Performance Objective	Selections from 'miscellaneous' resource list School and local industry Instructor Checklist	1. Participation 2. Notes and report on findings. 3. Per Instructor Checklist

PERFORMANCE GUIDE

UNIT: MANAGEMENT - JOB ACTIONS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

PLAN SECURITY PROGRAMS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "YES" for satisfactory task performance.

1. Personal identification system ☐
2. Gate or door checks ☐
3. Lighting ☐
4. Structural restraints ☐
5. Pericdic police checks ☐
6. Electronic alarm and surveillance equipment ☐
7. Human and/or canine patrols ☐

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TAKE SOIL SAMPLES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a 400 sq. ft. area to be sampled (specify turf, plants, or general use) and the necessary tools and materials, take representative soil samples of the area. PERFORMANCE GUIDE (Attached)	1) Contact local Co-Operative Extension Agent regarding methods of taking soil samples. 2) Read subject-matter units/ bulletins 3) Complete Performance Objective	Selections from 'Micellaneous' resource list Illinois No. 4001 'Collecting and Preparing Soil Samples' Kentucky No. GG-1 'Taking Soil Samples' Michigan E-498 'Sampling Soils' Wisconsin No. 670 'Sampling Lawn and Garden Soils Local Co-operative Extension Service Office Performance Guide	1) Notes/Report findings 2) Notes 3) per Performance Guide and Instructor Approval

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TAKE SOIL SAMPLES

PERFORMANCE GUIDE

1. Identify field on plant sheets.
2. Complete needed laboratory information on sheet and container.
3. Plot sample area on lab sheet.
4. Retrieve representative samples by lifting soil from proper depth.
5. Package soil samples in container.

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SEND SAMPLES FOR ANALYSIS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given soil samples, supplies, and necessary information, send samples to a soil testing laboratory for analysis. Information on the sample container must be complete and correct. The analysis sheet must be firmly attached to the soil container. PERFORMANCE GUIDE (Attached)	1) Contact Local Co-Operative Extension Agent regarding methods on packaging soil samples. 2) Read subject-matter units/ bulletins 3) Complete Performance Objective	Selections from 'Micellaneous' resource list Illinois No. 4001 'Collecting and Preparing Soil Samples' Kentucky No. GG-1 'Taking Soil Samples' Michigan E-498 'Sampling Soils' Wisconsin No. 670 'Sampling Lawn and Garden Soils Local Co-operative Extension Service Office Performance Guide	1) Notes/Report findings 2) Notes 3) per Performance Guide and Instructor Approv

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SEND SAMPLES FOR ANALYSIS

PERFORMANCE GUIDE

1. Fold completed analysis sheet and place inside container box or tape to one side of box.
2. Seal container by interlocking flaps.
3. Wrap container box with shipping paper and seal with string or tape.
4. Address package with proper mailing and return addresses.
5. Purchase and apply postage.
6. Deposit in mailbox.

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? READ AND INTERPRET SOIL TEST ANALYSIS

PERFORMANCE GUIDE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a soil sample report for a definite area and plant nutrient tables, determine the amount of plant food needed to bring the area to a specified fertility level for specified plants. The plan should be developed for a 3 year period.	1) Contact local Co-operative Extension Service Agent for suggestions 2) view filmstrips/slides 3) read subject-matter units 4) complete Performance Objective	Selections from 'Miscellaneous' resource list Illinois No. 640 'Fertilizing and Watering Shade and Ornamental Trees' No. 4002a 'pH Test for Soil Acidity' No. 4003b 'Testing Soils for Phosphorus' No. 4004b 'Determining Available Potassium in Soils' No. 4005 'Nature of Soil Acidity and Major Plant Nutrients' No. 4006a 'Soil Liming' No. 4008a 'Recommended Potassium Fertilizers' No. 4010a 'Planning a Fertilizer Program' No. 4011a 'Hunger Signs in Crops' No. 4052 'Understanding Soils' Kentucky No. GG-2 'Developing Fertilization Schedules' No. GG-60 'Applying Fertilizer to Trees' New York 01.0599-02 'Preparing and Maintaining Ornamental Horticulture Soils'	1) notes/report findings 2) notes 3) notes 4) per Performance Guide and instructor approval

UNIT: Soils

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Read and Interpret Soil Test Analysis

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PERFORMANCE GUIDE

1. Review soil test report.
2. Note nutrient deficiencies listed.
3. Determine methods of correcting deficiencies.
4. Determine any other correction processes needed to improve soil structure, texture, etc.

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP PROCEDURES FOR IMPROVING SOILS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of landscaped area (which has low fertility soil) and soil analysis reports, develop procedures for improving the soil in the area. PERFORMANCE GUIDE	1) Contact local Co-operative Extension Service Agent for recommendations 2) View filmstrips/slides 3) Read subject-matter units/ bulletins 4) Complete Performance Objective	Selections from "Miscellaneous' resource list ILLINOIS No. 640 "Fertilizing and Watering Shade and Ornamental Trees' No. 4006a 'Soil Liming' No. 4008a 'Recommended Potassium Fertilizers' No. 4010a 'Planning a Fertilizer Program' CALIFORNIA Fertilizing Ornamental Plants' GEORGIA 'Fertilizing Ornamental Shrubs and Trees' 'Fertilizing Ornamentals' 'Mulching Ornamentals' KENTUCKY NO. GG-2 'Developing Fertilization Schedules' No. GG-9 'Applying Fertilizer' No. GG-60 'Applying Fertilizer to Trees' MICHIGAN 'Fertilizing Shade and Ornamental Trees' 'Liquid Fertilizers'	1) Notes/ report findings 2) Notes 3) Notes 4) Per Performance Guide and instructor approval

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP PROCEDURES FOR IMPROVING SOILS (2)

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES (cont'd)	EVALUATION
		Michigan (cont'd) 'Secondary and Micronutrients' Ohio 'Liming Acid Soils' Local Co-operative Extension Service Office Performance Guide Instructor Checklist	
PERFORMANCE GUIDE			

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP PROCEDURES FOR IMPROVING SOILS

PERFORMANCE GUIDE

1. Review description of landscaped area.

2. Determine with supervisor/instructor how often soil samples are to be taken (i.e. yearly)

3. Review soil analysis report, pinpointing deficiencies in the soil.

4. Determine methods to be used to improve soil.
   a. qualities desired in good topsoil
   b. soil improvement crops (legumes)
   c. drainage as means for improving topsoil
   d. adding fertilizers or mulches
   e. irrigating soil

5. Develop procedures for each soil improvement method.

6. Test irrigation water to determine affect on soil.
   a. pH of irrigation water
   b. nutrient excess/deficiencies
   c. frequency of irrigation water tests (i.e. every 3-4 yrs.)

7. Present to instructor for review.

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

DEVELOP PROCEDURES FOR IMPROVING SOILS

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the student adequately develops procedures for each task listed and for each type shrub given by the instructor, write YES in the space provided. If procedures are not adequately developed, write NO in the space provided. All items must be rated YES for satisfactory performance.

TASK	TYPE SHRUBS OR LAWN AREAS (WRITE IN)			
	1.	2.	3.	4.
1. Adding mulch or topsoil				
2. Preparing and using compost				
3. Sterilizing soil				
4a. Fertilizing soil - elements and micronutrients				
4b. Soil amenments - lime, gypsum, sulfur				

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PREPARE SOIL WITH A TILLER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a rotary tiller and equipment operating instructions, prepare a 100 square foot plot of soil for planting Bluegrass seed. The soil should be tilled to an average depth of 6 inches and to a medium tilth.	1) Read subject - matter unit 2) Group discussion of rotary tiller operation, using manufacturer's instructions 3) Complete Performance Objective	Selections from Miscellaneous' resource list NEW YORK 01.0599-06 'Operation and Maintenance of Horticulture Equipment' Manufacturer's Instructions Performance Guide	1) Notes 2) Participation 3) Per Performance Guide and instructor approval

PERFORMANCE GUIDE

(Attached)

GARDENING - GROUNDSKEEPING

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PREPARE SOIL WITH A TILLER

PERFORMANCE GUIDE

1. Perform any needed preliminary equipment or engine maintenance specified by manual.

2. Set tilth, if applicable.

3. Determine starting point and direction of travel.

4. Prepare seed bed:
   a. economically
   b. overcompensate if necessary (football field vs. home lawn)
   c. to provide for good drainage.

5. Lower rotors at starting point.

6. Set throttle at 3/4 speed and allow tiller to set travel speed.

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CONTROL SOIL EROSION CAUSED BY WATER AND WIND

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an area eroded by water and/or wind, list a minimum of 5 ways that erosion can be prevented or remedied.	1) View filmstrips/slides 2) Read subject-matter units 3) Group discussion of soil erosion control measures 4) Contact local Co-operative Extension Service agent for recommendations 5) Complete Performance Objective	Selections from 'Miscellaneous' resource list ILLINOIS No. 627 'Planting, Protecting Existing Features, Drainage and Driveways' No. 646 'Groundcovers and Their Uses' KENTUCKY No. GG-7 'Preventing and/or Controlling Water Erosion' NEW YORK 01. 0603-02 'Soil and Water Management' 01. 0603-03 'Erosion Control' Local Co-Operative Extension Service Office Instructor Checklist	1) Notes 2) Notes 3) Participation 4) Notes/ report findings 5) at least 5 student responses must match those in instructor checklist

PERFORMANCE GUIDE

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO?

CONTROL SOIL EROSION CAUSED BY WATER AND WIND

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. For satisfactory performance, 5 responses must be rated yes.

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1. Sod areas
2. Plant groundcovers
3. Establish permanent cover
4. Plant strip covers
5. Sod waterways.
6. Construct cross-drainage ways
7. Mulch area
8. Construct terraces

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? HAUL AND SPREAD TOPSOIL

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an area void of topsoil and the necessary tools and equipment, haul and spread topsoil on the designated area to a depth of 10 to 12 inches.	1) read subject-matter unit 2) complete Performance Objective	Selections from 'Miscellaneous' resource list Kentucky No. GG-5 'Hauling and Spreading Topsoil' Local Industry Performance Guide	1) notes 2) per Performance Guide and instructor approval

PERFORMANCE GUIDE

(attached)

GARDENING - GROUNDSKEEPING

UNIT: SOILS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? HAUL AND SPREAD TOPSOIL

PERFORMANCE GUIDE

1. Locate and mark fill stakes for proper depth.
2. Choose transportation route.
3. Load wheelbarrow.
4. Transport and deposit topsoil on area.
5. Spread topsoil to desired depth.
6. Level topsoil with rake.
7. Clean up surrounding areas- walks, grass areas, etc.

UNIT: LAWNS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PREPARE A SEEDBED FOR LAWN AREAS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a soil analyis, plant food, & the necessary tools and equipment, prepare a Seedbed for a lawn. Tillage depth should extend 5"-7" with a smooth top surface. PERFORMANCE GUIDE (ATTACHED)	1. View filmstrips/slides 2. Read modules/bulletins 3. Group discussion of lawn seedbed preparation 4. Demonstration of lawn seedbed preparation by local golf course employee, landscaper, groundskeeper, etc. 5. Complete Performance Objective	Selections From Miscellaneous Resource List ILLINOIS: No. 651 'Steps To A Better Lawn' No. 652 'Identifying Illinois Turfgrasses' No. 653 'Seed Structure and Identification of Cool Season Shrub Grasses'. No. 5021 'Establishing A Lawn' CALIFORNIA: 'Lawns & Ground-Covers' KENTUCKY: GG No. 8 'Preparing A Lawn Seedbed' MICHIGAN: 'Lawn Establishment ' 'Establishing A Lawn' NEW YORK: 01.0506-01 'Growing and Caring for Turf-Grass' 01.0506-02 'Lawn Construction' LOCAL INDUSTRY	1) Notes 2) Notes 3) Participation 4) Attendance 5) Per Performance Guide and Instructor Approval.

GARDENING - GROUNDSKEEPING

UNIT: Lawns

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Prepare a seed bed for lawn areas

PERFORMANCE GUIDE

1. Remove debris.
2. Thoroughly till area several times until the correct contour and pitch have been attained.
3. Apply plant food (12-12-12) uniformly over entire area and lightly rake it.
4. Rake soil surface smooth.

UNIT: - LAWNS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? AERATE AND REVITALIZE WORN SPOTS IN LAWNS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a compacted playing area and necessary tools, equipment, and supplies, vitalize sod which has been compacted during athletic events. The area must be aerated work sposts must be unsodded, it must drain properly, and the sod must be restored to an upright position for normal growth. PERFORMANCE GUIDE (attached)	1) Contact local Cooperative Extension Service Office for recommendations 2) Contact local industry for practices 3) View filmstrips/slides 4) Read Subject-matter Units 5) Complete Performance Objective	Selections from miscellenous Resouce list. ILLINOIS: No. 651 'Steps To A Better Lawn' No. 5021 'Establish A Lawn Subject Matter Units GEORGIA No. 'Lawn Grass Maintenance' KENTUCKY GG No. 11 'Sowing Lawn' 12 'Revitalizing and Aereating Sod' S3 'Sodding worn spots in Lawns' NEW YORK 01.0506-02 'Lawn Construction' OHIO 'Lawn Renovation and Re-establishment' 'Turf Management- Manual LOCAL COOPERATIVE EXTENSION SERVICE OFFICE LOCAL INDUSTRY	Per Performance Guide and Instructor Evaluation 1) Notes/Report Findings 2) Notes/report findings 3) Notes 4) Notes 5) Per Performance Guide and Instructor approv and State Experiment Stations recommendati

GARDENING - GROUNDSKEEPING

UNIT: Lawns

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Aerate and Revitalize Worn Spots in Lawn

PERFORMANCE GUIDE

1. Isolate area with barriers to prevent activity on the designated areas.
2. Remove dead grass and other debris.
3. Aerate Sod.
   a. set equipment for operation
   b. determine direction of travel
   c. cover area completely with aerator
   d. clear tines as necessary
   e. replace broken tines, as necessary
4. Loosen compacted topsoil/sod with tiller or hand tools.
5. Fertilize work area (12-12-12).
6. Smooth and grade area for proper drainage.
7. Seeding
   a. reseed barres areas
   b. add needed water
   c. water regularly until sod is reestablished
8. Sodding
   a. carefully unroll sod and place pieces in staggered brick pattern
   b. join edges of sod firmly
   c. after all sod has been placed on area, tou area. Rolling should be done in 2 directions
   d. thoroughly water sod as soon after rolling as possible
   e. water sod regularly until rooted
   f. on sloped areas, take precautions to prevent sod from washing away before it has rooted

UNIT: LAWNS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? FILL IN HOLES OR DEPRESSIONS IN LAWN

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given the necessary tools and topsoil, fill all holes and depressions in a lawn. The topsoil applied to each depression must match the contour of the lawn area when packed.	1) View filmstrip 2) Read Subject-matter Unit 3) Group demonstration 4) Complete Performance Objective.	Selections from Miscellanous Rescources List ILLINOIS: No. 627 'Planting. Protecting Existing Features, Drainage and Driveways' KENTUCKY No. 5 'Hauling and Spreading Topsoil'' LOCAL INDUSTRY LOCAL COOPERATIVE EXTENSION SERVICE OFFICE	1) Notes 2) Notes 3) Participation 4) Per Performance and Instructor Evaluation
PERFORMANCE GUIDE (Attached)			

UNIT: Lawn

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Fill in Holes or Depressions in Lawn

PERFORMANCE GUIDE

1. Load wheelbarrow with topsoil.
2. Locate holes or depressions in lawn.
3. Mark all holes and depressions.
4. Fill each hole with topsoil, and compact slightly to prevent washing and setting.
5. Rake topsoil to contour of areas.

UNIT: LAWNS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? USE PROPER TECHNIQUES TO MOW LAWNS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a Bluegrass lawn area a rotary mower & operating instructions, mow the grass within the confines of the area. The grass weight should be within ±1/4" of the recommendation of the State Experiment Station for cutting Bluegrass in the lawn area. PERFORMANCE GUIDE (Attached)	1) Read Subject Matter Units 2) View Filmstrips/Slides 3) Group discussions of various lawn mowing techniques 4) Complete Performance Objective	Selections for Miscellanous Resource List ILLINOIS: No.651 - Steps to a Better Lawn GEORGIA No. 28 - Lawn grass Maintenance KENTUCKY GG No. 54 Mowing Grass NEW YORK 01. 0506-01 Growing and Caring for Turf grass OHIO Lawn Care and Management Turf Management Reference Guide Operators Manual Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per Performance Guid and Instructor Appro

UNIT: Lawns

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Use Proper Techniques to Mow Lawns

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PERFORMANCE GUIDE

1. Set height of cut of mower blade
   a. dry weather - higher
   b. wet weather - lower

2. Determine starting point and directions of travel

3. Change cutting patterns

4. Mow grass within area.
   CAUTION Watch for rocks, sticks bottles, cans, and other debris which could cause injury to bystander. If possible keep discharge chute pointed away from people, buildings, walkways, streets, and cars.

UNIT: TREES, SHRUBS, ANNUALS, & PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ARRANGE FOR TRANSPORTATION OF MATERIALS PURCHASED

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
A group of trees and shrubs have been purchased. Arrange to have them transported from a nursery to a holding shed. The type of transportation provided must protect the items from dehydration and leaf, root, or limb damage. PERFORMANCE GUIDE (attached)	1) Group discussion of methods of transporting plant materials, use of tarps, anti-transpiants, possible plant damage and its prevention. 2) Read subject matter unit. 3) Independent/group research of recommended industry and cooperative extension service practices. 4) Visit to local nursery shipment yard. 5) Complete performance objective.	Selections from miscellaenous resource list. Kentucky GG. No. 73 'Purchasing and Transporting Plants, Equipment, and Supplies.' Local Industry Local Cooperative Extension Service Office. Performance Guide	1) Participation 2) Notes 3) Notes/report findings. 4) Attendance/attentive. 5) Per performance guide and instructor inspection for damage.

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Arrange for Transportation of Materials Purchased

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PERFORMANCE GUIDE

1. Review list of items purchased.
2. Assign task to worker.
3. Instruct worker for inspecting and transporting purchased items.
   a. vehicle required for transportion of plants.
   b. route to and from nursery.
   c. pick-up point at nursery.
   d. examining and separating unhealthy plants.
   e. sales receipt to be obtained.
   f. procedure for loading and unloading plants
   g. use of tarps and/or anti-transpirants
4. Inspect transported plants for dehydration, leaf, root, or limb damage.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CONSTRUCT PROPER STORAGE AREAS TO PROTECT PLANTS FROM WEATHER.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given access to tools, materials and supplies construct a temporary holding area (lathe area) to protect plants until they are transplanted. PERFORMANCE GUIDE (attached)	1) Group discussion of weather conditions from which to protect plants - methods of protecting plants. 2) Visit plant-holding areas at local nurseries/garden-centers. 3) Consult extension cooperative service office on recommended practices. 4) Read subject-matter units. 5) Complete performance objective.	Selections from miscellaneous resource list Kentucky 66. No. 36 'Constructing portable shading-devices' 66. No. 33 'Constructing plant-holding arbors' Local industry Local cooperative extension service office. Performance Guide	1) Participation 2) Attendance/notes 3) Notes/report findings 4) Notes 5) Per performance guide and instructor approval

GARDENING - GROUNDSKEEPING

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Construct Proper Storage Areas to Protect Plants from Weather.

PERFORMANCE GUIDE

1. Determine type of plants to be shaded.
2. Determine weather conditions from which to protect plants.
3. Determine type of material to use.
4. Take measurement for shading device.
5. Lay out and cut materials to size.
6. Assemble materials.
7. Move plants into storage area until planting time.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TRANSPLANT TREES - A

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a shovel and burlap, move a small tree to a new location. The plant must be set at the same depth as the previous location. The plant leaves, branches, or roots must not be damaged. PERFORMANCE GUIDE (Attached)	1) Consult local cooperative extension service office for recommended procedures. 2) View filmstrips/slide sets. 3) Read subject matter units. 4) Demonstration by local nursery/landscape operation. 5) Complete performance ojective.	Selections from miscellaneous resource list ILL 641-1.1 'Mechanical Digging of Trees and Shrubs' 641-1.2 'Hand Digging of Trees and Shrubs' 5002 'Transplanting Shade Trees' Kentucky 66. No. 58 'Transplanting Trees' Local industry Local Cooperative Extension Service Office Performance Guide	1) Notes/report findings 2) Notes 3) Notes 4) Attendance 5) Per performance guide and instructor approval.

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Transplant Trees - A

PERFORMANCE GUIDE

1. Root prune tree the preceeding season it is to be dug.
2. Soak soil around tree with water before digging (if ground is firm).
3. Determine size of rootball.
4. Cut trench around outside of rootball to make room for undercutting roots.
5. Cut under rootball with shovel.
6. Wrap burlap around rootball.
7. Pil or sew burlap around lower tree trunk.
8. Tie burlap around remaining portion of rootball.
9. Remove rootball from hole.
10. Prepare new site and set in place.
11. Water tree regularly.
12. Prune tree back after transplanting to reduce shock.

UNIT: TREES, SHRUBS, ANNUALS, & PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TRANSPLANT TREES - B

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a small bare root tree and access to planting tools and equipment transplant the tree in a manner that roots will not be damaged or restricted from their natural lie. When settled, the filled hole should be level with the contour of the surrounding soil. PERFORMANCE GUIDE (Attached)	Same as 'A' 1) Consult local cooperative extension service office for recommended procedures. 2) View filmstrips/slide sets. 3) Read subject matter units. 4) Demonstration by local nursery/landscape operation. 5) Complete performance objective.	Selections from miscellaneous resource list. ILL 641-1.1 'Mechanical Digging of Trees and Shrubs' 641-1.2 'Hand Digging of Trees and Shrubs' 5002 'Transplanting Shade Trees' Kentucky 66. No. 58 'Transplanting Trees' Local industry Local Cooperative Extension Service Office Performance Guide	1) Notes/report findings 2) Notes 3) Notes 4) Attendance 5) Per performance guide and instructor approval.

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Transplant Trees - B

PERFORMANCE GUIDE

1. Determine species of tree.
2. Remove plant from container.
3. Check for damaged roots. Remove broken roots.
4. Dig hole 6" deeper and 6" wider than plant's root system.
5. Place plant in hole to same depth as previously grown.
6. Spread roots into natural growing position.
7. Fill soil around roots and in hole.
8. Tamp soil until firm.
9. Water plant.
10. After water has settled, fill hole with soil to level of surrounding soil surface.
11. Wrap trunk of tree to protect from weather, if appropriate.
12. Stake tree to protect from wind damage.
13. Prune tree, if necessary.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? WRAP TREES OR SHRUBS TO PROTECT FROM WEATHER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a thin-barked tree and wrapping materials, wrap the materials on the tree to protect it from winter weather. All bark on the trunk area as high as 5' from the ground, or up to lower limbs should be completely covered. PERFORMANCE GUIDE	1) Read subject matter units. 2) Group discussion on reasons to protect trees and shrubs. 3) Visit location of newly planted trees and note wrapping materials and method of application. 4) Read manufacturers ads. 5) Complete performance objective.	Selections from miscellaneous resources list. ILL No. 5002 'Transplant Shade Trees' Kentucky 66. No. 57 'Wrapping Trees or Shrubs to Protect From Weather' Local industry Local cooperative extension service office. Manufacturer's advertisement materials. Performance guides.	1) Notes 2) Participation 3) Attendance/observation 4) Know brand names, make up materials. 5) Per performance guide and instructor evaluation.

GARDENING - GROUNDSKEEPING

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Wrap Trees or Shrubs to Protect from Weathe

PERFORMANCE GUIDE

1. Begin at bottom of tree trunk and wrap upward in a spiral form (so water runs down). If burlap is used, fold edges under.
2. After wrapping is completed, take string and wrap in opposite direction and tie to hold wrapping in place.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? BRACE NEWLY PLANTED TREES.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
a) Given a wooden stake, sledge hammer and tying materials, brace a newly planted bare root tree which is 2" or less in diameter. The stake should not damage bark and must prevent leaning when 10-20 pounds of force is applied halfway up the tree trunk. b) Given guy wires, rubber hose, stakes, and sledge hammer, brace a newly planted b & b tree which is more than 2" in diameter. The brace must prevent leaning when 20-30 pounds of force is applied above the midpoint of the tree trunk. The guy wires must not damage the bark or the tree trunk or branches during windy periods. PERFORMANCE GUIDE (a) attached (b) attached	1) Read subject-matter units. 2) Demonstration on bracing trees. 3) Complete two performance objectives.	Selections from miscellaneous resource list ILL 5002 'Transplanting Shade Trees' Kentucky GG No. 59 'Bracing Trees' Performance guides.	1) Notes 2) Attendance 3) Per performance guides and instructor approval

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Brace Newly Planted Trees

PERFORMANCE GUIDE

A. 1. Determine the length of stake.
2. Cut stake to length.
3. Drive stake 2' into ground 6" from tree trunk on windward side of tree. After stake has been driven into ground, its top should be about midpoint of tree trunk.
4. Tie tree to stake in three places with leather, rope, or other material which will not cut the bark of tree. Trunk should stand straight and may be wrapped, then tied with wire.

B. 1. Tie three guy wires to tree trunk at point where branches begin, inserting wires through sections of hose at points where wire would contact tree bark.
2. Cut stakes to length.
3. Drive stakes into ground around tree at distances which form an equilateral triangle. Leave enough stake above ground to anchor guy wires.
4. Anchor guy wires to stakes so that the tree will stand upright.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PRUNE TREES AND SHRUBS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
A tree or shrub has been unattended for several years. Given the necessary pruning tools, determine whether the plant should be pruned for shaping and/or stimulation and rejuvenation. And prune accordingly. PERFORMANCE GUIDE (Attached)	1) Readings form miscellaneous resource list. 2) Read subject matter units. 3) View slides/filmstrips 4) Demonstration of pruning. 5) Complete performance objective. 6) Group discussion with supervisor from commercial tree trimming company and/or lcoal power company.	Selections from 'miscellaneous' resource list. ILL 615 'Objectives of Pruning Deciduous Trees' 613 'Pruning Evergreens' 644 'Pruning Deciduous Shrubs' 645 Pruning Flowering Trees' 5004 'Pruning Shade Trees' Calif 'Elements of Pruning' Georgia Pruning Ornamental Trees and Shrubs Pruning Overgrown Shrubs No. 207 Pruning Shade Trees No. 628 No. 30 Pruning Shrubs No. 334 Pruning Shade Trees Kentucky GG No. 61 Pruning and Trimming Trees GG No. 64 Pruning Shrubs to Provide stimulation and rejuvenation. GG No. 65 Pruning shrubs for shaping GG No. 66 Pruning hedges for shaping	1) Notes 2) Notes 3) Notes 4) Attendance 5) Per performance guide and instructor approval.

REFERENCES
CONTINUED

New York
01.0501-02 - Pruning Ornamentals

Ohio
'Pruning of Landscape Ornamentals

Wisconsin
No. 590 Deciduous Shrubs Pruning and CAre
No. 608 Shade Trees - Pruning and Care

Performance Guide

Local Industry

Local Cooperative Extension Service Office

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Prune Trees and Shrubs

PERFORMANCE GUIDE

1. Inspect tools and/or equipment to determine if they are in proper working condition and are sharp.
2. Determine if tree/shrub needs to be pruned for shaping and/or stimulation and rejuvenation purposes.
3. Determine proper shape of tree/shrubs.
4. Select proper tool(s) for pruning.
5. Remove all dead, diseased, or injured branches.
6. Remove wayward branches.
7. Remove clusters and single growth which extend beyond desired shape.
8. Seal all large cuts with antiseptic compound.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PRUNE HEDGES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a row of established hedge plants in need of shaping, prune the hedges to desired size using electric and hand hedge shears. The hedge should be shaped to permit light to stimulate growth on all areas of the hedge. PERFORMANCE GUIDE (attached)	1) Read from miscellaneous resource list. 2) Read subject matter units 3) View filmstrip/slides. 4) Demonstration of pruning hedges. 5) Complete performance objective.	Selections from miscellaneous resource list. ILL 644 - 'Pruning Dediduous Shrubs.' CALIF 'Elements of Pruning' Georgia 'Pruning Orn.-Trees & Shrubs' 'Pruning Shrubs.' Kentucky GG No. 66 'Pruning Hedges for Shaping.' New York 01.0501-02 'Pruning Ornamentals' Ohio 'Pruning of Landscape Ornamentals.' Wisconsin No. 590 - 'Deciduous Shrubs-Pruning and Care' Performance guide Local industry Local Cooperative Extension Service Office	1) Notes 2) Notes 3) Notes 4) Attendance 5) Per performance guide and instructor approval

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Prune Hedges

PERFORMANCE GUIDE

1. Check tools and equipment for proper condition and sharpness. Repair or sharpen as necessary.
2. Determine desired size and shape of hedge plants. Hedge should be cut slightly undersize.
3. Remove all growth to accomplish purposes of pruning.
4. Leave hedge wider at bottom for maximum sun exposure.

UNIT: TREES, SHRUBS, ANNUALS & PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? TREAT TREE CAVITIES AND WOUNDS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a tree(s) with freshly pruned branches and a cavity, apply a coat of antiseptic tree paint to all exposed pruned areas and treat the tree cavity. The entire area of the cavity must also be sealed with the tree wound dressing. Periodic observations of all treated areas should reveal that the tree cavity wounds are not decaying. PERFORMANCE GUIDE (attached)	1) Read subject matter units. 2) View filmstrip/slides. 3) Demonstration of treating cavities and tree wounds. 4) Individual/group reserach of local industry practices. 5) Group discussion on types of tree wound paints and methods of application. 6) Complete Performance objective.	Selections from miscellaneous resource list. ILL 615 'Objectives of Pruning Deciduous Trees' 5004 'Pruning Shade Trees' Georgia 'Pruning Ornamental Trees & Shrubs' 'Pruning Shade Trees' - No. 628 No.334 Kentucky GG No. 62 Treating Cavities in Trees GG No. 61 Pruning and Trimming Trees Performance Guide Local Industry Local Cooperative Extension Service Office	1) Notes 2) Notes 3) Attendance 4) Notes/report findings 5) participation 6) per performance guide and instructor approval.

UNIT: Trees, Shrubs, Annuals and Perenials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Treat Tree Cavities and Wounds

PERFORMANCE GUIDE

1. Determine extent of cavity.
2. Remove diseased or damaged bark and wood with hammer and chisel.
3. Smooth damaged area with chisel.
4. Clean and smooth cut areas with pruning knife.
5. Apply tree paint, covering all exposed areas.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? BRACE OVERLOADED LIMBS OR BRANCHES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given pliers, cable, brace and bit, eyebolts, and wrench brace v-crotch limbs on a tree. The cable must not damage the tree bark during windy periods. No splitting of the crotch must occur during periods of branch overloads.	1) Read subject-matter units. 2) Demonstration of bracing limbs/branches. 3) Group discussion on reasons for bracing trees, various materials. 4) Complete Performance Objective.	Selections from miscellaneous resource list. Kentucky GG No. 59 'Bracing Trees' Performance Guide Local Industry Local Cooperative Extension Service Office	1) Notes 2) Attendance 3) Participation 4) Per performance guide and instructor approval.
PERFORMANCE GUIDE (Attached)			

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Brace Overloaded Limbs or Branches

PERFORMANCE GUIDE

1. Determine best location of brace.
2. Drill holes in limbs for eyebolts.
3. Fasten eyebolt through each limb parallel to direction of cable pull.
4. Fasten a steel cable to each eyebolt and tighten until snug.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? REMOVE DEAD OR UNWANTED TREES AND STUMPS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
a) Given a tree 6" or less in diameter, remove the tree using a shovel, ax, chains, and a front end loader tractor. The trunk portion must be removed completely from the ground. b) Given a stump 8" or less in diameter and a stump grinder, remove the stump. No wood particles should remain visible at ground level. PERFORMANCE GUIDE a. (Attached) b. (Attached)	1) Read subject matter unit. 2) Demonstration of tree/stump removal by local tree service company 3) Complete performance objective.	Selections from 'miscellaneous' resource list Kentucky GG No. 63 'Removing dead and unwanted trees" Performance guides Local Industry Local cooperative Extension Service Office	1) Notes 2) Attendance 3) Per performance guide and instructor approval.

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Remove Dead or Unwanted Trees and Stumps

PERFORMANCE GUIDE

1. Remove dirt from around tree or stump with shovel.
2. Cut tap roots and large fibrous roots.
3. Place chains around stump or base of tree.
4. Pull out tree or stump with chain and tractor.
5. Perform any preliminary maintenance on stump grinder.
6. Determine depth of stump.
7. Start grinder, using manufacturer's instructions.
8. Place grinder over stump and operate machine according to instructions of manufacturer.
9. Remove chips from surrounding area.
10. Fill depression with topsoil and pack slightly.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PLANT ANNUAL FLOWERS.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given annual plants in containers, a seedbed, water supply, and access to planting tools, plant annual flowers. The leaves, stems and roots of the plants must not be broken during the planting process. Regular visual inspections must show that the plants have not wilted. PERFORMANCE GUIDE (Attached)	1) View filmstrips, slides. 2) Read subject matter unit. 3) Review seed catalogues. 4) Group design of flower bed on school grounds. 5) Complete Performance Objective for designed flower bed.	Selections from 'miscellaneous' resource list. ILL. No. 601 'Garden Flowers-Annuals, Part I' No. 602 'Garden Flowers-Annuals, Part II' Kentucky GG No. 50 'Planting and Mulching Flowers and Bulbs' Ohio 'Annuals' Seed Catalogues Performance Guide Local Industry Cooperative Extension Service Office	1) Notes/pass teacher developed identification test on annuals. 2) Notes 3) Familiarity with seed company names and products. 4) Participation 5) Per performance guide and bed design and instructor approval.

GARDENING - GROUNDSKEEPING

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Plant Annual Flowers

PERFORMANCE GUIDE

1. Take and analyze soil samples prior to planting area.
2. Check soil for proper moisture and mixture, using nurseryman's criteria.
3. Dig hole about twice width of rootball, and slightly deeper than rootball.
4. Remove plant from container. (execption: peat pots, Jiffy - 7's, etc.)
5. Set plant into hole and fill in under rootball and around sides of rootball. Top of rootball should be flush with contour of seedbed.
6. Soak filled hole with water.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? REMOVE GRASS FROM FLOWER BED EDGES.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given the necessary tools, remove grass from the edge of flower beds. The permanent plants and shrubs must not be damaged and the edge line must be within +1" of the original line	1) Read subject matter unit. 2) Group discussion on edging tools and products. 3) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Kentucky GG No. 52 'Removing Weeds and Grass from Flower Beds' Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Participation 3) Per performance guide and instructor approval.

PERFORMANCE GUIDE
(attached)

GARDENING - GROUNDSKEEPING

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Remove Grass from Flower Bed Edges

PERFORMANCE GUIDE

1. Stretch string along flower bed edge approximately 1" above ground level.
2. Using an edger with a blade, or a sod lifter, make a vertical cut along edge, following line of string.
3. Dispose of grass and remove string.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? REMOVE WEEDS AND GRASS FROM FLOWER BEDS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Using a hoe, weeder, or chemical methods, remove unnecessary weeds and grass from an unmulched flower bed. The topsoil must be left smooth and flowers should not be bruised, uprooted, or damaged by chemicals. PERFORMANCE GUIDE (Attached)	1) Read subject matter unit. 2) View filmstrip/slides. 3) Group discussion of critical chemical weed removal. 4) Complete Performance Objective.	Selections from 'miscellaneous' resource list. Kentucky GG No. 52 'Removing Weeds and Grass from Flower Beds' Ohio 'Weed Control, Cultural and chemical' Performance guide Local industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per Performance Guide and instructor approval.

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Remove Weeds and Grass from Flower Beds

PERFORMANCE GUIDE

1. Determine hardness of soil. If soil is hard, soften with sprinkled water.
2. Take shallow, short strokes with hoe to uproot weeds and grass.
3. Using hoe, take weeds and grass to edge of bed.
4. Dispose of weeds and grass.
5. Add new soil in holes created by uprooting weeds and grass.
6. Rake surface of flower bed with hoe or rake until smooth.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? PLANT BULBS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given access to planting tools and supplies, plant bulbs 6-8" deep in a prepared bed. The bulbs must be completely covered with topsoil and set with pointed part up. PERFORMANCE GUIDE (attached)	1) Read subject matter unit. 2) Review bulb catalogues on bulb types/planting methods and grades. 3) Group design of bulb garden bed. 4) Complete Performance Objective design.	Selections from 'miscellaneous' resource lsit. Kentucky GG No. 50 'Planting and Mulching Flowers and Bulbs' Bulb Catalogues Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide bed design and instructor approval.

UNIT: Trees, Shrubs, Annuals and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Plant Bulbs

PERFORMANCE GUIDE

1. Remove bulb from package or bed, taking generous amount of soil with each bulb.
2. Dig hole 6 to 8 inches deep for bulb.
3. Place bulb in hole with pointed end in upward position.
4. Fill hole with soil.
5. Soak filled hole with water.

UNIT: TREES, SHRUBS, ANNUALS, AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY COMPOST AND MULCHES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
a) Given compost and the necessary tools, spread and till the compost into a soil area. Coverage should be uniform and thorough mixing should be evident. b) Given a bed of seedlings mulching materials, and necessary tools, add mulch around plants to a depth of 2-3 inches. PERFORMANCE GUIDE	1) Read subject matter units. 2) View filmstrips/slides. 3) Group discussion on uses/ advantages of composts and mulches, types of mulches. 4) Complete Performance Objectives.	Selections from 'miscellaneous' resource lists. ILL. No. 4052 'Understanding Soils' Georgia No. 357 'Mulching Ornamentals' Kentucky GG No. 3 'Preparing and Applying a Compost' GG No. 50 'Planting and Mulching Flowers and Bulbs' Performance Guides Local Industry Local Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide and teacher approval.

GARDENING - GROUNDSKEEPING

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Compost and Mulches

PERFORMANCE GUIDE

A. 1. Determine type of compost to be used. (i.e. mushroom compost)
   2. Spread ½ of compost supply uniformly over soil area.
   3. Fill into soil.
   4. Spread remaining compost over soil area.
   5. Till soil and compost thoroughly.

B. 1. Determine type of mulch to be used. (i.e. bark materials, stone, poly mulch, straw, hay)
   2. Prepare soil for mulch, if necessary.
   3. Spread mulch over area.
   4. Add excess mulch to allow for setting.
   5. Smooth top of mulch, if necessary.

UNIT: TREES, SHRUBS, ANNUALS AND PERENNIALS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? WATER PLANTS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a group of plants and portable irrigation equipment, maintain sufficient moisture around the plants for one month. Finished work must be approved by the instructor using a checklist. All checklist statements must be rated 'yes' for satisfactory performance PERFORMANCE GUIDE attached	1) View filmstrip/slides 2) Read subject matter unit. 3) Group discussion of plant types, soil conditions, underwatering, overwatering. 4) Complete Performance Objective.	Selections form 'miscellaneous' resource list. ILL. No. 632 'Water Features, Irrigation, Materials.' Kentucky GG. No. 51 'Watering Plants' Instructor checklist Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide and instructor checklist.

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Water Plants

PERFORMANCE GUIDE

1. Determine soil type and slope.
2. Determine amount of water needed for plants.
3. Determine if plants are established or newly planted.
4. Check equipment for proper working order.
5. Set up watering equipment for proper coverage.
6. Turn on water and check for runoff.
7. Regulate water flow.
8. Check area frequently to maintain amount of water.

UNIT: Trees, Shrubs, Annuals, and Perennials

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Water Plants

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INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "yes" for satisfactory task performance.

1. Plants were watered only when necessary. ☐

2. Water was applied around plants at rate of absorption by soil. ☐

3. Moisture level of soil around plants was always 6 to 8 inches. ☐

4. Plants were watered in early morning. ☐

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? COMPILE INFORMATION NECESSARY FOR PURCHASING CHEMICALS FOR SHRUBS, TREES, AND LAWNS.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a description of a landscaped area, soil test results, the objectives of the spray plan (curative or preventative), and a budget, compile the necessary information for purchasing chemicals for trees, shrubs, and lawns. The written informations must include, and will be checked for correct brand names, item quantities and supplier names and addresses. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units, bulletins 3) Group discussions of curative vs. preventative spray plans, licensing laws 4) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-1.1 'Understanding and Safe Use of Pesticides' 1108-1.2 'Selecting and Handling Pesticides' Idaho Pesticides for Plant Disease Control Kentucky 66 No. 68 Purchasing and Storing Chemical Supplies Michigan Pesticides for Ornamentals E-944 Texas Agricultural Chemical Sales and Services Wisconsin No. 150 'Understanding Pesticide Labels Agricultural Chemical Catalogues Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance slide, and instructor approval and in accordance with state EPA regulations

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Compile Information Necessary for Purchasing chemicals for Shrubs, Trees, and Lawns

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PERFORMANCE GUIDE

1. Determine whether spray program is preventative or curative.
2. Review description of landscaped area.
3. Locate chemical manufacturer's reference literature.
4. List shrubs, trees, and lawn areas on sheet.
5. Review state experiment station literature for common insects and diseases, recommended chemicals for controlling these insects and diseases, and chemical application rates for each shrub, tree, and lawn listed previously.
6. List chemical type and application rate for each shrub, tree, and lawn listed.
7. List chemicals to be purchased for each type shrub, tree, and lawn.
   a. brand name
   b. item quantities
   c. name, address, or location of supplier
8. Compute costs for each type chemical to be purchased and list totals.
9. Present plant to instructor for review.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? STORE AGRICULTURAL CHEMICALS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given ten agricultural chemical containers with labels intact, list accurately the recommendations for storing the chemicals. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units, bulletin 3) Group discussion of chemical storage, state EPA regulation 4) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-1.1 1108-1.2 4045a 'Handling and Using Pesticides Safely' California Agricultural Chemical Safety Kentucky 66 No. 68 Purchasing and Storing Chemical Supplies Wisconsin No. 150 Understanding Pesticde Labels Agricultural Chemical Catalogues State EPA Regulations Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance Guide and instructor approval and in accordance with State EPA regulations

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Store Agricultural Chemicals

PERFORMANCE GUIDE

1. Review materials on storing agricultural chemicals.
2. Read labels on chemical packages to determine storage procedures.
3. Arrange chemicals used by class/greenhouse, etc. in storage area according to package directions, and EPA storage regulations.
4. Have instructor approve storage procedures used.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DISPOSE OF PESTICIDE CONTAINERS.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given several empty containers, dispose of each according to the instructors provided or the container and according to state and federal EPA standards. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units, bulletins 3) Independent/group research of EPA regulations of disposing chemical containers 4) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-101 Understanding and Safe Use of Pesticides 1108-1.2 Selecting and Handling Pesticides 4045a 'Handling and Using Pesticides Safely' California Agricultural Chemical Safety Kentucky 66 No. 68 Purchasing and Storing Chemical Supplies Oklahoma 'Principles of Pesticide Use, Handling, and application Wisconsin No. 150 Understanding Pesticide Labels State and federal EPA standards Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Notes/report findings 4) Per performance guide, label instructions, EPA standards and instructors approval.

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Dispose of Pesticide Containers

PERFORMANCE GUIDE

1. Determine type of pesticide being disposed, and state/federal government EPA regulations.
2. Neutralize remaining chemical, if possible, following label directions.
3. Puncture or crush container (except aerosol).
4. Follow manufacturer's and EPA directions for disposal of container.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CHECK PLANTS AND LAWNS FOR INSECTS.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given shrubs, flowers or lawn areas, inspect to determine if insects exist. Your conclusions must be correct as verified by the instructor. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units 3) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-2.2 Identifying Common Insects Pests 5016 Identifying and Controlling Lawn Insects California Insect I.D. Learning Kit (slide) Georgia Insects of Flowers and Ornamentals Ohio Insect and Insect-Like Pests of Landscape Ornamentals Some Common Types of Insects Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Per performance guide and instructor approval

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Check Plants and Lawns for Insects

PERFORMANCE GUIDE

1. Check overall appearance of plant or lawn area. Wilting or discoloring of leaves, branches or lawn areas may indicate presence of harmful insects below soil surface.
2. Check upper and lower surfaces of leaves.
3. Check individual branches.
4. Check stem.
5. Check grass blades and roots.
6. Check soil around and underneath plants.
7. If insect signs exist, a portion of the affected area might be removed for examination.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLYING A PESTICIDE.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a pesticide, apply the chemical to an insect-infested, lawn area. The amount of chemical applied should be within ± S percent of the amount recommended for the lawn size and insect infestation. Recommended mixture should be used, all safety rules observed, and uniform coverage should be evident. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units 3) Group discussion of compatibility of chemicals 4) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-1.3 'Calibeating and Applying Pesticides Safely Georgia Applying Pesticides Kentucky 66 No. 70 Applying Chemicals With A Tractor-Mounted Sprayer 66 No. 72 - Applying Chemicals to Diseased Plants Oklahoma 'Principles of Pesticides Use, Handling, and Application' Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide, EPA standards and instructor approval

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply a Pesticide

PERFORMANCE GUIDE

1. Remove or cover water containers and food sources in area.
2. Read chemical labels completely.
3. Observe all safety precautions for pesticide.
4. Partially fill sprayer with water.
5. Determine amount of pesticide needed.
6. Determine compatibility of mixing chemicals.
7. Add chemical to sprayer, carefully following label directions.
8. Add surfactant, if applicable.
9. Add water until sprayer is full.
10. Thoroughly mix solution.
11. Put on protective mask and clothing, if necessary.
12. Determine starting point and direction of travel.
13. Hand sprayer
    a. pressurize sprayer with tank pump
    b. adjust nozzle for desired coverage
    c. spray affected area in a uniform pattern
14. Tractor-mounted sprayers
    a. start movement of tractor and open sprayer(s)
    b. maintain constant ground speed until area is covered.
15. Clean equipment after use.
16. Thoroughly cleanse exposed skin areas with soap and water.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY CHEMICAL TREATMENT TO DISEASED OR INSECT INFESTED PLANTS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given plants infested with either chewing or sucking insects, apply a chemical which will kill the identified insects. The plant growth must not be retarded by the chemical treatment. The chemical used must not be allowed to come in prolonged contact with skin, a drift to animals, food sources, or water sources. PERFORMANCE GUIDE (attached)	1. view filmstrips/slides 2. read subject matter units 3. group discussion of preventative vs. curative spray programs 4. complete Performance Objective	Selections from 'Misc.' Resource List Ill. 1108-1.2 1108-1.3 4045a Georgia 'Applying Pesticides' Kentucky 66 No. 70 'Applying Chemicals to Diseased Plants' Oklahoma 'Principles of Pesticide Use, Handling and Application' Performance Guide Local Industry Co-op. Ext. Service Office	1. notes 2. notes 3. participation 4. see performance guide and instructor approval

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Chemical Treatment to Diseased or Insect Infested Plants

PERFORMANCE GUIDE

1. Determine whether treatment program is preventative or curative.
2. Determine required chemical, using diagnostic chart which shows type of chemical to be used with given plants.
3. Read manufacturer's instructions for using chemical.
4. Evaluate weather conditions, such as wind direction, velocity, and shower activity.
5. Mix chemical according to directions, if required.
6. Determine equipment to use in application of chemical.
7. If sprayer is used, prepare for use in application of chemical.
8. Spray plants, using manufacturer's instructions for operating sprayer. Cover all pests, and upper and lower leaf surfaces.
9. Dispose of chemical container, following EPA regulation.
10. Dispose of excess chemical, following EPA regulations.
11. Store chemical, following EPA regulations.
12. Clean all equipment with water.
13. Thoroughly cleanse exposed skin areas with soap and water.

UNIT: PESTICIDES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY WEED KILLING COMPOUNDS TO LAWNS.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a lawn with specific kinds of weeds, apply a weed killing compound over all areas of the lawn. Permanent grasses and plants must not be damaged by the chemical. Uniform coverage must be evident by dead or dying weeds. . PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject matter units, bulletins 3) Group discussion or herbicides selective/non-selective 4) Complete performance objective	Selections from miscellaneous resource list Illinois 1108-1.3 Calibrating and Applying Pesticides Safely 'How Herbicides Work' 'Weed Control' Georgia (bulletins) No. 678 Weed Control in Lawns No. 96 Weed Control in Lawns Geigy Lawn and Insect Control Manual Applying Pesticides Kentucky 66 No. 71 Weed Killing Compounds Ohio Weed Control, Cultural and Chemical Wisconsin No. 118 Controlling Lawn Weeds Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide, EPA standards, and instructor approval

UNIT: Pesticides

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Weed Killing Compounds to Lawns

PERFORMANCE GUIDE

1. Determine kinds of weeds.
   Determine required chemical, using diagnostic charts which show type of chemical to be used with given weeds.
2. Read chemical label to determine proper use of chemical.
3. Mix chemical, if required.
4. Prepare sprayer for application of chemical.
5. Thoroughly wet all weeds with spray mist, covering upper and lower surfaces of foliage while following directions for rate of application.
6. Dispose of excess chemical according to directions.
7. Clean spray equipment with water.

UNIT: FERTILIZERS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY FERTILIZERS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given the necessary equipment, operator's manual, and the necessary fertilizer materials, apply the fertilizer over a defined area of soil. The application should be made uniformly over the plot and as close as possible to the recommendations of the State Experiment Station for the particular plants on the plot. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject-matter units, bulletins 3) Read operator's manual 4) Group discussion of various fertilizer spreaders 5) Complete Performance objective	Selections from "miscellaneous" resource list Illinois- 4010a 'Planning a Fertilizer Program' California- Fertilizing Ornamental Plants Kentucky GG No. 9 Applying Fertilizer Operator's Manuals Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Notes 4) Participation 5) Per performance guide, state experiment station recommendations, operator's manual, and instructor approval

UNIT: Fertilizers

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Fertilizers

PERFORMANCE GUIDE

1. Determine type of spreader to be used. (d.e. centrifugal, diop-type spreaders)
2. Check operator's manual for instructions.
3. Determine spreader setting for rate per area.
4. Close rate gate (s).
5. Fill hopper with fertilizer.
6. Determine direction of travel for uniform application.
7. Open rate gate after machine is in motion.
8. Walk at steady, even pace while operating spreader.

UNIT: FERTILIZERS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY FERTILIZERS TO TREES AND SHRUBS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an established tree (3-8 inches in diameter) with a shoot growth rate of less than 8 to 12 inches per season, fertilize the tree. The fertilizer must be applied equally to root areas throughout and 2 feet beyond the 'drip' line of the tree. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read Subject-Matter Units/ bulletins 3) Group discussion on methods of tree fertilization. ie., punch bar, root feeders, surface application, tree spikes. 4) Complete Performance Objective	Selections from 'miscellaneous' resource list Illinois No. 640 Fertilizing and Watering Shade and Ornamental Trees California Fertilizing Ornamental Plants Georgia Fertilizing Ornamental Shrubs and Trees No.356 Fertilizing Ornamentals Kentucky GG No. 60 Applying Fertilizer to Trees Michigan E-786 Fertilizing Shade and Ornamental Trees E-933 Liquid Fertilizers Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Notes 3) Participation 4) Per performance guide and instructor's approval

UNIT: Fertilizers

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Fertilizer to Trees and Shrubs

PERFORMANCE GUIDE

1. Determine type of fertilizer to be used - granular, slow release, spike, foliar, soluble, etc. - and method of application needed.

2. Determine amount of fertilizer needed for each plant according to size of plant, growth rate, number of times fertilized each season, etc.

3. Apply fertilizer in such a manner that the plant will not be injured by burning from fertilizer, will not have soft growth at end of season - susceptible to winter burn, and the pH level will not change to affect plant growth.

4. Obtain instructor approval on application rates before applying fertilizer to plants.

UNIT: FERTILIZERS

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DEVELOP FERTILIZATION SCHEDULES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Provided with a description of a landscaped area, a soil analysis report from a professional lab, and schedule form, develop a schedule for applying fertilizer to shrubs, trees, and lawns during a one-year period. The schedule will be checked for accuracy by the instructor, using description of the landscaped area, the soil analysis report, and fertilizer application reports from the State Agricultural Agencies. PERFORMANCE GUIDE (Attached)	1) Read subject-matter units 2) Group discussion of information needed to develop fertilizer schedule 3) Research local industry practices 4) Complete Performance Objective	Selections from 'miscellaneous' resource list Illinois 4010a 'Planning a Fertilizer Program' Kentucky GG No. 2 'Developing Fertilizer Schedules' Performance Guide Local Industry Cooperative Extension Service Office	1) Notes 2) Participation 3) Notes/report findings 4) Per performance guide, State Experiment Station recommendations, and instructor approval

UNIT: Fertilizers

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Develop Fertilization Schedules

PERFORMANCE GUIDE

1. Review description of landscaped area.
2. Review soil analysis report.
3. Refer to state agricultural agency reports for analysis of various fertilizers and recommended rates of application.
4. List each type shrub, tree, and lawn area on prepared schedule form.
5. Identify type fertilizer and rate of application for each shrub, tree, and lawn area.
6. Indicate approximate dates for fertilizing each shrub, tree, and lawn area.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CLEAN GROUNDS OF LEAVES AND LITTER.

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a lawn area littered with leaves and paper, and the necessary tools, remove leaves and litter from the area.	1) Read suggested matter - unit 2) Group discussion on why grounds must be kept clean (attitude) 3) Complete performance objective	Selection from 'miscellaneous' resource list KENTUCKY GG. No. 46 'Cleaning Grounds of leaves and Litter' Performance Guide Local Industry	1) Notes 2) Participation 3) Per performance guide and instructors approval
PERFORMANCE GUIDE (attached)			

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Clean Grounds of Leaves and Litter

PERFORMANCE GUIDE

1. Remove paper and other synthetic debris and deposit in container.
2. Sweep leaves and remaining debris into small piles using a leaf broom.
3. Place piled leaves into disposable bags or other suitable containers.
4. Remove containers to appropriate locations.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DISPOSE OF PRUNINGS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a power clipper and operator's manual, dispose of a stack of prunings. No prunings or wood debris should remain on the ground area.	1) Group discussion on operating power clipper and safety precautions. 2) Demonstration of power clipper operation. 3) Complete performance objective	Selections from 'miscellaneous' resource list Performance Guide Operator's Manual Local Industry	1) Participation 2) Attendance 3) Per performance guide, operator's manual and instructor approval

PERFORMANCE GUIDE

(attached)

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Dispose of Prunings

PERFORMANCE GUIDE

1. Position chipper by stack of prunings.
2. Perform necessary service to equipment as indicated in operator's manual.
3. Read operator's manual for equipment operating and safety instructions.
4. Start chipper power unit.
5. Feed prunings into chipper carefully, observing safety rules.
6. Dispose of chips as mulch in a shrub or plant area, storage pile, etc.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? REPAIR IRRIGATION LINES AND SPRAY COMPONENTS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given plumbing tools, remove obstructions in irrigation lines and spray components. Must not leak. Water must flow through the lines and spray components at a normal rate. PERFORMANCE GUIDE (attached)	1) View filmstrip/slides 2) Read subject matter - unit 3) Group discussion on various and specific irrigation systems/components 4) Complete performance objective	Selections from 'miscellaneous' resource list ILLINOIS No. 632 'Water Feature, Irrigation Materials' KENTUCKY 66 No. 47 'Servicing Irrigation Systems' Performance Guide Irrigation System Manual/ Information Local Industry	1) Notes 2) Notes 3) Participation 4) Per performance guide, System manual, and instructor approval

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Repair Irrigation Lines and Spray Components

PERFORMANCE GUIDE

1. Test system to find and diagnose problems.
2. Check pop-up head for operation. Disassemble, clean heads with directed water spray and replace re-set valves, if necessary.
3. Remove obstructions from supply lines with water pressure or remove section of pipe (PVC).
4. Replace water supply lines, if necessary.
5. Repair or replace leaking cut-off valves.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? MAINTAIN POOLS AND FOUNTAINS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given access to cleaning tools and supplies, clean a concrete-based ornamental pool. The fresh water placed in the pool must not develop a surface film or no debris must be visible on the pool bottom	1) Read subject matter-unit 2) Group discussion of pool cleaning process, supplies needed 3) Complete performance objective	Selections from 'miscellaneous' resource list KENTUCKY GG No. 42 'Cleaning Ornamental Pools' Pool Chemical Manufacturers Information Performance Guide and instructor approval	1) Notes 2) Participation 3) Per performance guide and instructor approv
PERFORMANCE GUIDE (attached)			

GARDENING - GROUNDSKEEPING

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Maintain Pools and Fountains

PERFORMANCE GUIDE

1. Drain water from pool.
2. Put on rubber gloves
3. Clean pool recesses, drain, and superstructure, as necessary, using water-detergent solution.
4. Fill pool with water.
5. Add algacide and chlorine as recommended to prevent growth of algae.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? REPAIR DRIVEWAYS AND STREETS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a shovel, tamp, and cold or hot-mix asphalt, repair a pothole in an asphalt street or driveway. The asphalt must be contoured slightly higher than the roadway and compacted so that it will support an automobile without altering or losing its contour.	1) Read subject matter unit 2) Group discussion on cold and hot mix asphalt application 3) Complete performance objective	Selections from 'miscellaneous' resource list KENTUCKY 66 No. 39 'Repairing Asphalt and Concrete Surfaces' Performance Guide Local Industry	1) Notes 2) Participation 3) Per performance guide and instructor approv

PERFORMANCE GUIDE

(attached)

GARDENING - GROUNDSKEEPING

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Repair Driveways and Streets

PERFORMANCE GUIDE

1. Locate sunken areas or potholes.
2. Remove broken asphalt or other faulty base material from roadbed.
3. Place new dirt (clay mixture) in roadbed and compact in 6" layers. Compact to within 8" of roadway surface.
4. Pour ready-mix concrete to within 2" of roadway surface and let set for 3 days.
5. Pour ready-mix hot-or-cold-mix asphalt over concrete.
6. Compact and smooth asphalt with a contour slightly higher than the roadway.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SWEEP STREETS OR PARKING LOTS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an industrial sweeping machine and operator's manual, sweep a parking lot clean. PERFORMANCE GUIDE (attached)	1) Read subject matter unit 2) Demonstration of sweeper use/operation 3) Complete performance objective	Selections from 'miscellaneous' resource list KENTUCKY 66 No. 40 'Cleaning Streets' Performance Guide Local Industry	1) Notes 2) Attendance 3) Per performance guide operators manual and instructors approval

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Sweep Streets or Parking Lots

PERFORMANCE GUIDE

1. Check manual for operating instructions.
2. Plan to sweep when no traffic, or re-direct traffic from area.
3. Adjust sweeping brooms for streets, curbs, and corners.
4. Start brooms in motion.
5. Move machine to curb side of parking lot.
6. Observe mirror on machine and guage side broom for sweeping along curb.
7. Turn on water sprayer to prevent excessive dust.
8. Sweep lot, observing proper rate of speed required for removing all debris, rocks, and dirt.
9. When stopping machine, lift broom from pavements.

UNIT: MAINTENANCE OF FACILITIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? APPLY SALT TO ICEY SIDEWALKS OR STREETS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Remove ice, snow or slush from sidewalks using salt. You may apply the salt by hand or use a mechanical spreader if one is available. Coverage should be uniform with increasing amounts for thicker ice. PERFORMANCE GUIDE (attached)	1) Read subject matter unit 2) Group discussion on Snow/ Ice removal materials, Salt damage to plant materials 3) Complete performance objectives	Selections from 'miscellaneous' resource list KENTUCKY GG No. 41 'Applying Salt to Icey Areas' Performance Guide Local Industry	1) Notes 2) Participation 3) Per performance guide and instructor approval

GARDENING - GROUNDSKEEPING

UNIT: Maintenance of Facilities

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Apply Salt to Icy Sidewalks or Streets

PERFORMANCE GUIDE

1. Load salt bucket or mechanical spreader.
2. Spread salt evenly over area-don't over apply salt or place in a high vegetative area.
3. Add additional salt as required.
4. Wash bucket or spreader thoroughly after use.
5. Sweep excess water off sidewalks as ice, snow, or slush melts.

UNIT: EQUIPMENT AND SUPPLIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? KEEP AN INVENTORY OF PLANTS, EQUIPMENT AND SUPPLIES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given an up-to-date inventory of plants, equipment and supplies, and an established system of purchasing and supply checkout, maintain on a weedly basis an accurate accounting of all items in the training center for a period of one month. Student inventory totals must match instructor totals from an item-by-item check at the end of the period.	1) Read subject matter unit 2) Group discussion on importance/use of inventory records 3) Complete performance objective	Selections from 'miscellaneous' resource list KENTUCKY GG No. 73 'Purchasing and Transporting Plants, Equipment, Supplies' Performance Guide Local Industry	1) Notes 2) Participation 3) As per performance guide and instructor approval

PERFORMANCE GUIDE

(attached)

GARDENING - GROUNDSKEEPING

UNIT: Equipment and Supplies

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Keep an Inventory of Plants, Equipment, and Supplies

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PERFORMANCE GUIDE

1. Review carefully the established system of purchasing and supply checkout.
2. Revise systems for improving efficiency and reducing costs, if applicable. Include means for recording items in stock, items checked out, and items purchased.
3. Record daily items checked out and items purchased.
4. Check items in stock at the end of each week.
5. After one month, present inventory totals to instructor for inspection.

UNIT: EQUIPMENT AND SUPPLIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE LAYOUT OF SHOP AND FACILITIES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a shop and related facilities, develop a list of 7 criteria to be used in evaluating the layout of the shop and facilities. For satisfactory performance, each criterion must relate to those contained in the instructor checklist.	1) Read subject matter units 2) Group discussion of shop layouts 3) Visit to local maintenance shop to observe layout 4) Complete performance objective	Selections from 'miscellaneous' resource list ILLINOIS No. 3022 'Safety in the Agricultural Mechanics Shop' No. 3044 'A Color Code for Shop Safety' Instructor Checklist Local Industry	1) Notes 2) Participation 3) Attendance 4) Per instructor checklist

PERFORMANCE GUIDE

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Seven items must be rated "yes" for satisfactory task performance.

1. Overall design ☐
2. Adequate space (i.e., equipment storage-cold workspace-heated) ☐
3. Efficient space utilization ☐
4. Neatness ☐
5. Cleanliness ☐
6. Adequate ventiliation ☐
7. Ample lighting (natural and artificial) ☐
8. Ease of modification ☐
9. Adquate safety features (i.e., floor drains) ☐
10. East of maintenance to building itself ☐
11. Future expansion considerations ☐

UNIT: EQUIPMENT AND SUPPLIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE CAPABILITIES OF EQUIPMENT

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Provided access to a used piece of equipment and manufacturer's specifications develop a list of at least 10 factors to consider in evaluating the capabilities of that piece of equipment. For satisfactory performance at least 10 factors should coincide with those items included in the instructor's checklist. The determination of correct or incorrect factors will be determined by the instructor. PERFORMANCE GUIDE	1) Group discussion of evaluation factors (considerations in instructor checklist 2) Complete perfromance objective	Selections from 'miscellaneous' resource list Manufacturers Specifications Instructor Checklist Local Industry	1) Participation 2) Per instructor checklist and manufacturer's specifications

INSTRUCTOP CHECKLIST

INSTRUCTIONS: For satisfactory performance, factors listed by the student should relate to a minimum of 10 itmes appearing on the list below. Check, in the space provided, those items which relate to items on the student's list.

1. Size _____
2. Weight _____
3. Operating Speed _____
4. Ease of handling _____
5. Amount of previous use _____
6. Average life of equipment _____
7. Service record _____
8. Amount of wear evident _____
9. Mechanical inspections results _____
10. Past repair record _____
11. Strength of construction _____
12. Difficulty of jobs for which the equipment was designed _____
13. Recommendation(s) from an experienced repairman or dealer _____
14. Manufacturer's recommended use(s) _____
15. Special accessories (i.e., turf ties or tractor, snowblowers or Toros) _____
16. Contact original owner, if known _____
17. Test run equipment _____

UNIT: EQUIPMENT AND SUPPLIES

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EVALUATE THE MAINTENANCE OF EQUIPMENT

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Provided with service records, repair records and operator's manual for a riding type rotary mower, determine if Service and maintenance work has been performed according to manufacturer's recommendations. Answers will be judged for correctness by the instructor.	1) Read operator's manual 2) Group discussion on mower maintenance frequency of maintenance, employee safety, quality of mowing and speed and economy 3) Complete performance objective	Selections from 'miscellaneous' resource list Operator's Manual Performance Guide Local Industry	1) Notes 2) Participation 3) Per performance guide, operator's manual and instructor approval

PERFORMANCE GUIDE

(attached)

UNIT: Equipment and Supplies

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Evaluate the Maintenance of Equipment.

PERFORMANCE GUIDE

1. Read operator's manual to determine necessary service and maintenance work.
2. Determine from service and repair records if proper maintenance work has been performed in the manner and schedule recommended by the manufacturer. Also consider employees safety, avoid chance of equipment abuse, and quality of mowing.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? USE A TRACTOR

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
A) Provided with a tractor, an operators manual, and a driving area with hills and obstacles, drive the tractor through the area, observing all safety rules and regulations. Performance will be judged by the instructor, using a checklist. All items must be checked 'yes' for satisfactory performance. B) Provided with a front-end loader and operator's manual, load approximately 2 cubic yards of topsoil onto the rear of a truck. Loading should be done according to recommended safety practices without damaging the loader or the truck. PERFORMANCE GUIDE (a) attached (b) attached	1) Read subject-matter units 2) Group discussion on tractor gasoline/diesel tractor, safety, various brands 3) Demonstration of tractor operation 4) Complete performance objective	Selections from 'miscellaneous' resource list ILLINOIS No. 3040 'Preventing Tractor Overturns' 'Tractor Safety Transparencies, 40 frames. GEORGIA Operating Tractors for Groundskeeping and Ornamental Horticulture NEWYORK ol.0599-06 Operates and Maintenance of Horticulture Equipment Performance Guide Instructor Checklist Operator's Manual Local Industry	1) Notes 2) Participation 3) Attendance 4) Per performance guide, operator's manual and instructor checklist

UNIT: Equipment Operation and Maintenance

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Use a Tractor

PERFORMANCE GUIDE

A. 1. Check seat position and adjust, if necessary.
2. If tractor is stored in building, check for adequate ventilation before starting engine.
3. Check fuel level.
4. Open fuel supply or lines.
5. Place transmission in proper setting for starting engine.
6. Set speed control lever.
7. Disengage clutch, if applicable.
8. Set choke.
9. Turn ignition switch to "on" position, if applicable.
10. Start engine.
11. Drive tractor through area.

B. 1. Review owner's manual for operation of front-end loader before instructor demonstration.
2. Practice operating front-end loader in open area.
3. Move front-end loader to work area.
4. Using bucket of front-end loader and auxilary equipment, begin moving soil from pile to truck.
5. Remove additional soil until specified amount is on truck.

INSTRUCTOR CHECKLIST

INSTRUCTIONS: If the performance is satisfactoy , write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "yes" for satisfactory task performance.

1. Engine was started without excessive draining of battery power. ☐
2. Machine motion was begun without jerks or grinding of gears. ☐
3. Correct gear selection was made for level terrain. ☐
4. Speed selection of throttle setting was correct for level terrain. ☐
5. Machine was stopped without sliding tires. ☐
6. Correct gear selection was made for hilly terrain. ☐
7. Correct speed or throttle setting was used for hilly terrain. ☐
8. Tractor was turned without tearing up sod or leaving black skid marks on pavement. ☐
9. All obstacles were avoided. ☐
10. Hand signals were used correctly. ☐
11. Engine was stopped without excessive backfire. ☐

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? DIG DRAINAGE DITCH WITH A PITCHWITCH

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a ditchwitch and an operator's manual, dig a straight drainage ditch to a line with a grade of ½ inch per foot of travel.	1. read operator's manual 2. group discussion on machine operation, depth and grade of drainage ditches 3. complete Performance Objective	Selections from 'Misc.' Resource List Operator's Manual Performance Guide Local Industry	1. notes 2. participation 3. see performance guide, operator's manual and instructor approval

PERFORMANCE GUIDE

(attached)

UNIT: Equipment Operation and Maintenance

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Dig a Drainage Ditch with a Ditch-witch.

PERFORMANCE GUIDE

1. Study owner's manual for operation of ditch-witch prior to instructor demonstration.
2. Practice operating ditch-witch in an open area observing safety rules.
3. Move ditch-witch into position to begin work.
4. Using ditch-witch, begin removing soil along drainage line.
5. Reposition ditch-witch as ditch is lengthened.
6. Check grade of ditch periodically with level and 6' folding rule.
7. Remove additional soil as required after checking grade.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SOW SEED WITH A ROTARY SPREADER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a hand seeder and 10 poinds of ryegrass seed, sow the seed over a 2/5 acre plot of soil. The seed should be sown at a rate of 25 pounds per acre with uniform coverage.	1. read operator's manual 2. demonstration of rotary spreader operation 3. group discussion on rotary vs. broadcast spreader 4. Complete Performance Objective	Selections from 'Misc.' Resource List Operator's Manual Performance Guide Local Industry	1. notes 2. attendance 3. participation 4. see performance guide, operator's manual and instructor approval
PERFORMANCE GUIDE (attached)			

UNIT: Equipment Operation and Management

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Sow seed with a Rotary Spreader

PERFORMANCE GUIDE

1. Determine boundaries for area to be sown.
2. Set seeder rate gate.
3. Fill seeder with proper amount of seed.
4. Determine starting point and direction fo travel.
5. Begin walking at normal pace and open rate gate.
6. Move handle forward in smooth, circular motion for desired sowing action.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EDGE A SIDEWALK WITH A POWER EDGER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given 200 feet of sidewalk, operator's manual for an edger, and safety glasses, trim grass overlapping the sidewalk with a power edger. The grass should be trimmed even with the edge of the sidewalk bordering the grass. PERFORMANCE GUIDE (attached)	1. read subject matter unit 2. read operator's manual 3. group discussion on power edger safety 4. complete Performance Objective	Selections from 'Misc.' Resource List Kentucky 66 No. 56 "Using a Power Edger" Operator's Manual Reference Guide Local Industry	1. notes 2. notes 3. participation 4. see performance guide, operator's manual, and instructor approval

UNIT: EQUIPMENT OPERATION AND MANAGEMENT

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? EDGE A SIDEWALK WITH A POWER EDGER

PERFORMANCE GUIDE

1. Set edger head to desired position.
2. Perform machine maintenance as specified in operator's manual.
3. Perform engine maintenance as specified in operator's manual.
4. Start engine.
5. Select speed, if applicable.
6. Determine starting point and direction of travel.
7. Lower blade to edge of sidewalk.
8. Walk at slow pace while trimming.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? USE A ROTARY TILLER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a front end rotary tiller and rear tine rotary tiller and equipment operating instructions, till a garden area to an average depth of 6" and to a medium tilth	1) Read operator's Manual 2) Group discussion of front end vs. rear tine tillers 3) Complete performance objective	Selections from 'miscellaneous' resource list Operators Manuals Performance Guide Local Industry	1) Notes 2) Participation 3) Per performance guide, operator manuals, and instructor approval

PERFORMANCE GUIDE

(attached)

UNIT: Equipment Operation and Maintenance

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? Uee a Rotary Tiller

PERFORMANCE GUIDE

1. Perform any needed preliminary equipment or engine maintenance specified by manual.
2. Set tilth, if applicable.
3. Check stabilizer bars and/or chains for proper fit, if applicable.
4. Start engine.
5. Determine starting point and direction of travel.
6. Engage rotors by adjusting belt or chain levers.
7. Lower rotors at starting point.
8. Set throttle at 3/4 speed and allow tiller to set travel speed.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? USE A ROTARY MOWER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a Bluegrass lawn area, a rotary mower, and operating instructions, mow the grass within the confines of the area. The grass height should be within ± 1/4 inch of the recommendations of the state experiment station for cutting Bluegrass on the lawn area. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject-matter units 3) Read Operator's manual 4) Independent/group research of Bluegrass cutting recommendations 5) Group discussion on dry vs. wet weather cutting heights, changing cutting patterns, mower cleaniness to prevent spread of disease, etc. 6) Complete Performance Objective	Selections from 'Miscellaneous' resource list Illinois No. 498 'Using Power Lawn Mowers Safely' Kentucky GG No. 54 'Mowing Grass' GG No. 28 'Servicing Rotary Type Cutting Blades' California 'Small Gasoline Engines' New York 01.0599-06 'Operation and Maintenance of Horticulture Equipment' Operator's Manual Local Co-Operative Extension Service Office Performance Guide	1) notes 2) notes 3) Notes/Pass instructor-made quiz 4) Notes/Report findings 5) Participation 6) Per Performance Guide and instructor approval

GARDENING - GROUNDSKEEPING

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? USE A ROTARY MOWER

PERFORMANCE GUIDE

1. Set height of cut of mower blade (dry weather - higher, wet weather - lower).
2. Perform preliminary machine maintenance as specified by manufacturer.
3. Perform preliminary engine maintenance as specified by manufacturer.
4. Set throttle control.
5. Determine starting point and direction of travel (cutting patterns).
6. Start engine.
7. Mow grass within area. Caution. Watch for rocks, sticks, bottles, cans and other debris which could cause injury to operator or bystander. If possible, keep discharge chute pointed away from people, buildings, walkways, streets, and cars.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? COMPACT A SEEDBED WITH A LAWN ROLLER

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Provided with a lawn roller and access to water, compact a lawn seedbed (not hydro-seeded) with the lawn roller. The area must be compacted twice with the roller in a crosswise direction. Each pass of the roller must overlap 12 inches. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject-matter units 3) Complete Performance Objective	Selections from 'Miscellaneous' resource list Illinois No. 651 'Steps to a Better Lawn' No. 5021 'Establishing a Lawn' Kentucky GG No. 8 'Preparing a Lawn Seedbed' Michigan E-673 'Lawn Establishment' 'Establishing a Lawn' New York 01.506-02 'Lawn Construction' Ohio 'Lawn Renovation and Reestablishment' Performance Guide	1) Notes 2) Notes 3) Per Performance Guide and instructor approval

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? COMPACT A SEEDBED WITH A LAWN ROLLER

PERFORMANCE GUIDE

1. Determine amount or level to fill roller.
2. Fill roller to proper level with water.
3. Determine starting point and direction of travel.
4. Guide roller uniformly over area, overlapping each path 12 inches.
5. Repeat steps 3 and 4 in opposite or crosswise direction.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CLEAN AND SHARPEN HAND TOOLS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given supplies necessary for cleaning and sharpening tools, remove all foreign material from a hoe and shovel and sharpen both tools. Gaps should be removed from the cutting edge of the hoe and shovel, and the original bevel of the cutting edge must be maintained. PERFORMANCE GUIDE (attached)	1) Read subject-matter units 2) Complete Performance Objective	Selections from 'Miscellaneous' resource list Kentucky GG No. 27 'Servicing Hand Tools' New York 01.0599-06 'Operation and Maintenance of Horticulture Equipment' Performance Guide	1) Notes 2) Per Performance Guide and instructor approval.

GARDENING - GROUNDSKEEPING

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CLEAN AND SHARPEN HAND TOOLS

PERFORMANCE GUIDE

1. Use solvent, electric wire brush, or hand wire brush, to remove foreign material from tool.

2. Clamp tool securely in vise.

3. Remove gaps from cutting edge of tool.

4. Sharpen tool with hand file or power file, maintaining original bevel. Caution. If using a hand file, grip file firmly and take short strokes to prevent hand injuries on tool cutting edges.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CLEAN CENTRIFUGAL FERTILIZER APPLICATORS

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Provided with a centrifugal fertilizer spreader and access to water and cleaning supplies, clean the fertilizer spreader. All foreigh particles should be removed from the hopper, gears, distributing wheel, and other exposed areas. The washed parts must be thoroughly dried and protectd against rust.	1) Read subject-matter units 2) Group discussion on importance of equipment cleanliness 3) Read Manufacturer's Manual 4) Complete Performance Objective	Selections from 'Miscellaneous' resource list Kentucky GG No. 10 'Cleaning and Lubricating Fertilizer Applicators' New York 01.0599-06 'Operation and Maintenance of Horticulture Equipment' Manufacturer's Manual Performance Guide	1) Notes 2) Participation 3) Notes 4) Per Performance Guide and instructor approval
PERFORMANCE GUIDE (attached)			

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? CLEAN CENTRIFUGAL FERTILIZER APPLICATORS

PERFORMANCE GUIDE

1. Thoroughly wash spreader with water and cleaning agents.
2. Inspect spreader for residue.
3. Use brush and/or cleaning materials to remove any undissolved fertilizer.
4. Rinse spreader with hose and water.
5. Remove water from gears or other unexposed areas with dry, clean cloth.
6. Coat all gears with oil or grease after washing to prevent rust.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ADD OIL IN SMALL ENGINES

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a manufacturer's manual and type oil recommended by manufacturer, add oil in a small engine. When completed, the dipstick or plug will show that the oil is level with the 'full' mark. There must be no oil leaks around parts which have been removed and replaced when the engine is placed back into operation. PERFORMANCE GUIDE (attached)	1) View filmstrips/slides 2) Read subject-matter units 3) Read Manufacturer's manual 4) Group discussion - check oil daily, damage to engine if too empty or full, etc. 5) Complete Performance Objective	Selections from 'Miscellaneous' resource list <u>California</u> 'Small Gasoline Engines' <u>Kentucky</u> GG No. 20 'Adding Oil in Small Engines' <u>New York</u> 01.0599-06 'Operation and Maintenance of Horticulture Equipment Manufacturer's Manual Performance Guide	1) Notes 2) Notes 3) Notes 4) Participation

GARDENING - GROUNDSKEEPING

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? ADD OIL IN SMALL ENGINES

PERFORMANCE GUIDE

1. Operate engine until warm.
2. Remove oil fill plug and check level of oil, or check level of oil with dipstick.
3. Fill crankcase with oil recommended by manufacturer. Caution: Never overfill crankcase.
4. Replace plugs or covers removed when checking oil level and filling crankcase.

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SERVICE BELT DRIVES ON GROUNDSKEEPING EQUIPMENT

PERFORMANCE OBJECTIVE	SUGGESTED LEARNING ACTIVITIES	REFERENCES	EVALUATION
Given a manufacturer's manual, solvents, lubricants and needed tools, service belt drives on groundskeeping equipment. All parts will be clean, lubricated, and adjusted to the tension recommended by the manufacturer. PERFORMANCE GUIDE (attached)	1) Read subject-matter units 2) Read Manufacturer's manual 3) Complete Performance Objective	Selections from 'Miscellaneous' resource list Kentucky GG No. 25 'Servicing Belt Drives' New York 01.0599-06 'Operation and Maintenance of Horticulture Equipment' Manufacturer's Manual Performance Guide	1) Notes 2) Notes 3) Per Performance Guide and instructor approval

UNIT: EQUIPMENT OPERATION AND MAINTENANCE

WHAT DOES THE COMPETENT GARDENING-GROUNDS EMPLOYEE DO? SERVICE BELT DRIVES ON GROUNDSKEEPING EQUIPMENT

PERFORMANCE GUIDE

1. Note: There are three basic types of belts drives - Flat belts, V-belts, and Round belts. These may be made of leather, rubber, fabric, steel, wire, or combinations of these materials. They may have an opened, turned, crossed, surpentine or mule form.

2. Check for signs of improper installation (belt stretches beyond take-up, fails for no visible reason, turns over, is cut on bottom, creeps or slips). Adjust as necessary.

3. Check condition of pulleys and smooth or adjust as needed.

4. Check belt alignment and tension. Adjust to specifications.

5. Clean belt of oil and grease with cloth and solvent. Add belt dressing if recommended by manufacturer.

6. Clean belt shields and screens.

GARDENING/GROUNDSKEEPING

MASTER REFERENCE

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Brooklyn Botanic Garden
Brooklyn, New York

Soils

John Deere Distribution Service Center
Dept. FF/TIE
1400- 3rd Avenue
Moline, Illinois 61265

Mowing and Spraying Equipment

Films & Filmstrips:

The Farm Film Foundation
Suite 424 - Southern Building
1425 H Street, N.W.
Washington, D.C. 20005

"Lawn Mower Safety"
"Precision Liquid Fertilization"
"Positive Placement of Fertilizer"

Associated Films, Inc.
600 Graud Avenue
Ridgefield, New Jersey 07667

"Turf Care"

National Plant Food Institute
1700 K St., N.W.
Washington, D.C. 20006

"Beautiful Lawns"

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California

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California Polytechnic State University
San Luis Obispo, California 93407

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"Insect Identification Learning Kit"

Manuals:

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"Small Gasoline Engines"
"Landscape Construction"
"Landscaping Maintenance"

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"Controlling Pests of Ornamental Plants" (sound)
"Elements of Pruning" (sound)
"Fertilizing Ornamental Plants" (sound)
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"Pruning Shrubs," slide set No. 30
"Ground Covers," slide set No. 332
"Lawn Grass Maintenance," slide set No. 28
"Maintaining Ornamentals," slide set No. 350
"Mulching Ornamentals," slide set No. 357
"Pruning Shade Trees," slide set No. 334

The University of Georgia, Dept. of AG. ED., Athens, GA 30602
"Insects of Flowers and Ornamentals," slide-tape

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Operating Tractors for Grounds Keeping & Ornamental Horticulture, Manual

Applying Pesticides, Manual - Audiovisuals

Planning for an Irrigation System, Manual - Slide Set

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Idaho

University of Idaho
Moscow, Idaho 83843

Pesticides For Plant Disease Control, Harry Fenwick.

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ILLINOIS

Vocational Agricultural Service
College of Agriculture
University of Illinois
434 Mumford Hall
Urbana, Illinois 61801

SLIDE FILMS AND SLIDE SETS:

NO.

498 'Using Power Lawn Mowers Safely.'
1106 'Plant Nutrients in the Environment.'
1107 'Air Pollution Damage to Vegetation.'
1108-1.1 'Understanding and Safe Use of Pesticides.'
1108-1.2 'Selecting and Handling Pesticides.'
1108-1.3 'Calibrating and Applying Pesticides Safely'
1108-2.2 'Identifying Common Insect Pests.'
708 'Soil Color.'
791a 'Weed Identification.'
791a (Supp) 'Practice Set Weed Identification.'
800 'Identification of Weed Seedlings - Broadleaves, Part I.'
801 'Identification of Weed Seedlings - Broadleaves, Part II.'
803 'Identification of Weed Seedlings - Grasses.'
811 'The Wicked World of Weeds.'
601 'Garden Flowers - Annuals, Part I.'
601 (Supp) 'Practice Set for Garden Flowers, Part I.'
602 'Garden Flowers - Annuals, Part II.'
602 (Supp) 'Practice Set for Garden Flowers, Part II.'
604 'Diseases of Garden Flowers.'
627 ' Planting, Protecting Existing Features, Drainage and Driveways.'
628 'Walks, Steps, Retaining Walls.'
629 'Fencing, Patios.'
630 'Mounds and Boulders, Statuary, Lighting.'
631 'Structures, Seating, Play Areas, Container.'
632 'Water Features, Irrigation, Materials.'
646 'Groundcovers and Their Uses.'
615 'Objectives of Pruning Deciduous Trees.'
616 'Selecting Trees for Landscape Use.'
504 'Identifying Coniferous Trees.'
636 'Tree Identification.'
640 'Fertilizing and Watering Shade and Ornamental Trees.'
641-1.1 'Mechanical Digging of Trees and Shrubs.'
641-1.2 'Hand Digging of Trees and Shrubs.'
643 'Pruning Evergreens.'
644 'Pruning Deciduous Shrubs.'
645 'Pruning Flowering Trees.'
660 'Recognizing Small Shrubs.'
660 (Supp) 'Practice Set for Recognizing Small Shrubs.'

NO.

660-1.2 'Recognizing Small Shrubs, Part II.'
661 'Recognizing Medium Size Shrubs.'
661 (Supp) 'Practice Set For Recognizing Medium Size Shrubs.'
662 'Recognizing Large Shrubs and Small Trees.'
662 (Supp) 'Practice Set For Recognizing Large Shrubs and Small Trees.'
662-1.2 'Recognizing Large Shrubs, Part II.'
681 'Selecting Container Evergreens, Part I.'
681 (Supp) 'Practice Set For Selecting Container Evergreens, Part I.'
682 'Practice Set For Selecting Container Evergreens, Part II.'
683 ' Selecting Container Evergreens, Part III.'
683 (Supp) 'Practice Set For Selecting Container Evergreens, Part III.'
650 'Lawn Weeds - Identification and Control.'
651 'Steps to a Better Lawn.'
652 'Identifying Illinois Turfgrasses.'
653 'Seed Structure and Identification of Cool Season Shrub Grasses.'

SUBJECT-MATTER UNITS:

NO.

4045a 'Handling and Using Pesticides Safely.'
4001 'Collecting and Preparing Soil Samples.'
4002a 'ph Test for Soil Acidity.'
4003b 'Testing Soils for Phosphorus.'
4004b 'Determining Available Potassium in Soils.'
4005 'Nature of Soil Acidity and Major Plant Nutrients.'
4006a 'Soil Liming - A Key to Better Farming.'
4008a 'Recommended Potassium Fertilizers.'
4010a 'Planning A Fertilizer Program.'
4011a 'Hunger Signs in Crops.'
4028 'Soil Structure.'
4029 'Soil Color.'
4030 'Soil Texture.'
4052 'Understanding Soils.'
5002 'Transplanting Shade Trees.'
5003 'Fertilizing and Watering Shade and Ornamental Trees.'
5004 'Pruning Shade Trees.'
5005b 'Controlling Tree and Shrub Insects.'
5021 'Establishing A Lawn.'
5015 'Turfgrass Diseases and Their Control.'
5016 'Identifying and Controlling Lawn Insects.'

TRANSPARENCIES AND STUDY GUIDES:

'How Herbicides Work'
'Soil Science'
'Soil Testing and Fertility'
'Weed Control'
'Safe Use of Pesticides'

REFERENCES

Kentucky

Competency-Based Vocational Education Unit - Attention : Donna G. Brown
2008 Capital Plaza Tower
Frankfort, Ky. 40601

Modules	GG No.
Introduction to Gardener-Groundskeeper	00
Taking Soil Samples	1
Developing Fertilization Schedules	2
Preparing and Applying a Compost	3
Converting Subsoil to Topsoil	4
Hauling and Spreading Topsoil	5
Sterilizing Soil	6
Preventing and/or Controlling Water Erosion	7
Preparing a Lawn Seedbed	8
Applying Fertilizer	9
Cleaning and Lubricating Fertilizer Applicators	10
Sowing Lawn	11
Revitalizing and Aerating Sod	12
Ordering and Maintaining Repair Parts	13
Lubricating a Tractor	14
Changing the Crankcase Oil Filter	15
Servicing Spark Plugs	16
Servicing the Distributor	17
Replacing Radiator Hoses	18
Inspecting Tractor Tires	19
Adding Oil in Small Engines	20
Servicing Carburetor Air Cleaners on Small Engines	21
Adjusting Small Engine Idle Speed	22
Cleaning and Oiling Electric Motors	23
Servicing Chain Drives	24
Servicing Belt Drives	25
Servicing Gear Drives	26
Servicing Hand Tools	27
Servicing Rotary Type Mower Cutting Blades	28
Repairing Extension Cords	29
Preparing a Tractor for Painting	30
Painting a Tractor	31
Building Supporting Structures for Training Vines	32
Constructing Plant-Holding Arbors	33
Constructing Fences	34
Constructing Portable Not-Caps	35
Constructing Portable Shading Devices	36
Constructing a Stone or Brick Wall	37
Repairing Masonry Retainer Walls	38
Repairing Asphalt and Concrete Surfaces	39
Cleaning Streets	40

Modules	GG No.
Applying Salt to Icy Areas	41
Cleaning Ornamental Pools	42
Maintaining Swimming Pools	43
Cleaning Rest Rooms	44
Cleaning and Digging Drainage Ditches	45
Cleaning Grounds of Leaves and Litter	46
Servicing Irrigation Systems	47
Repairing Faucets	48
Painting Lawn Furniture	49
Planting and Mulching Flowers and Bulbs	50
Watering Plants	51
Removing Weeds & Grass From Flower Beds	52
Sodding Worn Spots in a Lawn	53
Mowing Grass	54
Cutting Grass with a Power Scythe	55
Using a Power Edger	56
Wrapping Trees or Shrubs to Protect from Weather	57
Transplanting Trees	58
Bracing Trees	59
Applying Fertilizer to Trees	60
Pruning and Trimming Trees	61
Treating Cavities in Trees	62
Removing Dead and Unwanted Trees	63
Pruning Shrubs to Provide Stimulation and Rejuvenation	64
Pruning Shrubs for Shaping	65
Pruning Hedges for Shaping	66
Training Plants and Shrubs	67
Purchasing and Storing Chemical Supplies	68
Controlling Insects on Plants	69
Applying Chemicals with a Tractor-Mounted Sprayer	70
Applying Weed Killing Compounds	71
Applying Chemicals to Diseased Plants	72
Purchasing and Transporting Plants, Equipment, Supplies	73

Slide/Tape Materials:

Introduction to Gardening-Groundskeeping	00
Taking a Soil Sample	1
Changing the Crankcase Oil & Filter	15
Servicing the Distributor	17
Cleaning Carburetor Air Cleaners	18
Repairing Extension Cords	29
Using a Steam Cleaner	30
Painting a Tractor	31
Constructing an Arbor From a Blueprint	33
Repairing Faucets	48
Transplanting Trees	58
Applying Fertilizer to Trees	60
Controlling Insects on Plants	69
Applying Chemicals with a Tractor-Mounted Sprayer	70

REFERENCES

Michigan

Slide Sets:

Agriculture and Natural Resources Education Institute
Michigan State University
East Lansing, Michigan

Clark, Raymond and Churchill, Boyd. "Weed Identification"

Bulletins:

Cooperative Extension Service
Michigan State University
East Lansing, Michigan

Beard, J.B., et.al. Extension Bulletin E-673. "Lawn Establishment", 1973.

Bird, George W., Et al. Extension Bulletin E-944. "Pesticides for Ornamentals", 1976.

Evans, Rod. "Establishing a Lawn.", 1974.

Koelling, Melvin R. and Kielbaso, J. James. Extension Bulletin E-786. "Fertilizing Shade and Ornamental Trees", 1974.

Lucas, R.E. Extension Bulletin E-933. "Liquid Fertilizers", 1976.

Schickluna, John C. Extension Bulletin E-498. "Sampling Soils", 1975.

Vitosh, M.L., Warnecke, D.D., and Lucas, R.E. Extension Bulletin E-486. "Secondary and Micronutrients", 1973.

Wallner, William E. Extension Bulletin E-534. "Controlling Pests of Trees and Shrubs", 1975.

Walterscheidt, Michael; Koelling, Melvin, and Heiligmann, Randall. Extension Bulletin E-962. "Repairing Storm Damage to Shade and Ornamental Trees", 1976.

REFERENCES

Mississippi

Mississippi State University
Agricultural Education Department
Curriculum Coordinating Unit
Mississippi State, MS 39762

"A Reference For Liming Soils For Greater Profit",
L.P. Jacks and T.E. Ellis

"Basic Principles of Soil Science", L.P. Jacks and J. Roland Hamilton

REFERENCES

Missouri

Instructional Materials Laboratory
10 Industrial Education Building
University of Missouri - Columbia
Columbia, Missouri 65211

Sound Slide Series:

"Concrete: Placing, Finishing and Curing Flat Slabs"

REFERENCES

New York

The University of The State of New York
The State Education Department
Bureau of Occupational and Career Curriculum
Albany, New York 12234

Module Directory for Agricultural Education, 1974

Modules	Code
Pruning Ornamentals	01.0501-02
Constructing Landscape Features	01.0504-02
Implementing Landscape Plantings	01.0504-05
Maintaining Woody Shrubs in the Landscape	01.0504-06
Identification and Landscape Use of Herbacous Plants	01.0504-07
Growing and Caring for Turf Grass	01.0506-01
Lawn Construction	01.0506-02
Controlling Insects, Diseases, and Fertilization	01.0599-01
Preparing and Maintaining Ornamental Horticulture Soils	01.0599-02
Using Woody Plants in Ornamental Horticulture	01.0599-03
Operation and Maintenance of Horticulture Equipment	01.0599-06
Soil Science	01.0603-01
Soil and Water Management	01.0603-02
Erosion Control	01.0603-03

REFERENCES

Ohio

Ohio Agricultural Education Curriculum Materials Service
The Ohio State University
Room 254, 2120 Fyffe Road
Columbus, Ohio 43210

Slides and Script:

"Environmental Injuries to Landscape Plants"
"Pruning of Landscape Ornamentals"
"Insect and Insect-like Pests of Landscape Ornamentals"
"Diseases of Landscape Ornamentals"
"Lawn Care and Management"
"Turf Diseases of the Midwest"
"Lawn Renovation and Reestablishment"
"Liming Acid Soils"
"Soil and its Properties"
"Annuals"
"Perennieals"
"Geranium"
"Flowering Shrubs"
"Broad-leaved Evergreens for the Landscape"
"Deciduous Shrubs for the Landscape"
"Narrow-leaved Evergreens for the Landscape"
"Ground Covers and Hedges for the Landscape"

Manuals:

"Turf Management"
"Some Common Types of Insects"
"Weed Control, Cultural and Chemical"

Transparencies:

"Weed Control Transparency Masters"

REFERENCES

Oklahoma

Oklahoma State Department Vocational & Technical
Education Curriculum and Instructional Materials Center
1515 West Sixth Avenue
Stillwater, OK 74074

Teacher's Guide/Student Manual:

"Principles of Pesticide Use, Handling, and Application"

REFERENCES

Texas

Vocational Instructional Services
F.E. Box 182
Texas A & M University
College Station, Texas 77843

Manuals:

"Agricultural Chemical Sales and Services"
"Fertilizer Sales and Services"
"Irrigation Equipment Sales and Services"

REFERENCES

West Virginia

Mineral County Vocational-Technical Center
Keyser, West Virginia

"The Park Caretaker: A Suggested Course Outline for Buildings and Grounds Maintenance", J. Richard Campbell

REFERENCES

Wisconsin

University of Wisconsin - Cooperative Extension Service
University of Wisconsin
Madison, Wisconsin

Bulletins and Pamphlets

"Controlling Lawn Weeds" special circular No. 118
"Deciduous Shrubs - Pruning and Care" circular No. 590
"Evergreens - Their Care/Maintenance" circular No. 576
"Lawn Diseases in the Midwest" North Central Extension
"Shade Trees - Pruning and Care" circular No. 608
"Insect and Disease Control in the Flower Garden" circular No. 592
"Spring Bulbs" circular No. 504
"Understanding Pesticide Labels" special circular No. 150
"Sampling Lawn & Garden Soils" circular No. 670